

## General Practice Series

### COMMON ANO-RECTAL CONDITIONS

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Ano-rectal conditions have plagued man from earliest times and, like man himself, are still as troublesome as ever.

The ano-rectum (or the surgical anal canal) is the distal  $1\frac{1}{2}$  inches of the alimentary tract. It includes the last  $\frac{3}{4}$  inch of the rectum, the whole enclosed in the one compound sphincter limited above by the ano-rectal ring.

The lesions to be considered are all frequent, generally painful and, though by their accessibility easy of diagnosis, often difficult to cure. An operation is usually the only means of improvement, but it is too often delayed. For the incautious the frequency and chronicity of these lesions may mask a sinister change such as a cancer following on the trail of an inflammation.

Though many of the lesions can be diagnosed with confidence almost on the history alone, the essential part of the investigation is a complete examination of the region. In addition to a digital survey, the examination must include the use of an anal speculum or, better still, a sigmoidoscope. Failing to insert a finger is like going in to bat without pads, but omitting a sigmoidoscopy is to do without the bat as well.

Though the lesions are for the most part specific for a limited area, it must be remembered that other more extensive or general conditions, especially of the adjacent bowel, may sometimes cause similar symptoms. For example, intestinal amoebiasis may present as a granulomatous peri-anal mass or multiple fistulae; haemorrhoids particularly affect young adults and if they occur in old age may be due to a rectal cancer obstructing the venous return; recurrent peri-anal infections or pruritus may indicate diabetes; a fistula anywhere may point to an open pulmonary tuberculous lesion.

The understanding of the pathological spread, the detailed diagnosis and the operative cure of many of the conditions are based almost entirely on anatomical considerations. This, however, does not mean that proctology need be a 'closed book' to the family doctor nor, on the other hand, should he let the great incidence and chronicity lead him to become conditioned to the miseries caused by these lesions.

Rectal cancer, proctitis and the more general conditions such as ulcerative colitis are not included in this review.

#### HISTORY

Though not so important as the examination, much can be learned from the history, especially if a careful analysis is

made of the chronology of the symptoms and their relation to defaecation and to each other.

*Duration of symptoms.* Except for acute abscess, haematoma or fissure, the conditions have usually been present for a considerable time. A fissure, too, by repeated healing and recurrence is sometimes episodic. Haemorrhoids progress with a continuity of symptoms. A fistula commonly leads to a persistent discharge but it may also cause acute attacks of abscess formation.

*Bleeding.* It is fresh blood that indicates ano-rectal bleeding; only rarely will haemorrhoids, for instance, bleed heavily into the rectum to produce a collection of changed blood with the next stool. Blood flecks the stool; if it is mixed with the faeces it is evidently coming from higher up in the bowel. The patient should be asked whether the bleeding occurs with the stool or apart from the stool. Piles cause bleeding at stool, which may continue for a while after. A fissure sometimes bleeds constantly and heavily at stool. A rectal cancer may give an urge to defaecate, only blood being passed. Blood mixed with pus, mucus or both is likely to come from a higher lesion such as colitis (e.g. amoebiasis) or a cancer. Only rarely will a single haemorrhage from piles be so severe as to exsanguinate, but continued over many weeks bleeding piles sometimes cause alarming anaemia urgently demanding blood infusion.

*Pain* is never experienced with internal piles unless they are complicated by thrombosis or strangulation. Pain is the basic feature of a fissure. It occurs not only during defaecation and for some time after, but often quite apart from defaecation, even wakening the patient at night. The site of the fissure may be identified by the pain. A peri-anal haematoma (and a thrombosed external pile) is exposed by sudden severe pain at the anal verge hampering walking and sitting; often it is only then that the tender lump is found. The pain from these conditions is evidently caused by spasm of the sphincter. Pain is also experienced with some low rectal cancers which give a painful urge to defaecate (tenesmus).

*Change in bowel habit.* This, surprisingly, is more important in the diagnosis of lesions higher in the tract. *Constipation* is not common with piles or fissure and, if present, is not usually recent. It is true that the patient with fissure is often afraid to defaecate, but one rarely finds the rectum loaded. Even a slight change of habit, especially when there is loss of weight or condition, demands a full survey of the alimentary

tract; the cause of the constipation will often be found at the top end—pyloric stenosis being the notable example. *Diarrhoea* usually takes the form of the passage of many loose or watery stools, but in some cases only one loose stool is passed daily. Sometimes the content is pus or mucus only. The *shape* of the stool is significant. A stricture, commonly a malignant one, such as the common ring cancer of the sigmoid or even a knobbly rectal growth, may flute the motion or cause the passage of small hard faecal pellets ('rabbit's stool'). Stagnation above such a stricture may cause diarrhoea alternating with constipation—a form of incontinence with overflow.

**Discharge.** Apart from the discharges at stool, any ano-rectal condition may excite an output of mucus. Piles particularly do so when they prolapse and cause a continuous irritation. In addition to specific local conditions, pruritus ani may be associated with a host of general conditions, some medical (diabetes, jaundice, food allergies), some dermatological (psoriasis, seborrhoea, mycoses, syphilis) but the majority, some 50%, of unknown origin.

**Swelling.** A fistula may be evident to the patient as a tiny nodule, often damp with pus,  $\frac{1}{2}$  inch or more from the anus. It becomes tender if the track is temporarily closed and full of pus. A low-level fistula may thus be palpable outside the anus in almost its full length. The patient soon becomes aware of even a small inflammatory focus or haematoma through the early difficulty in walking. This may be due to an early ischio-rectal abscess causing swelling of the buttock or a pea-like thrombosed external pile becoming nipped at the anus.

The commonest diagnosis by the layman and, alas, by some doctors, of any ano-rectal lesion is 'piles', because so often there is bleeding or something 'hanging down'. Skin tags—the remnants of old fissures or thrombosed external piles—are as common as prolapsing internal piles and may be very large. They are, however, completely clothed by skin.

**Prolapse.** The anal canal normally everts on straining. Internal piles, at first reducing spontaneously after prolapse at stool, grow and encroach on the anal verge so that finally they cannot be returned even with the help of the fingers. It is then that by inflammation or congestion they strangulate in the prolapsed position. The solitary rectal polyp of children is only diagnosed when it prolapses and is seen, except for the occasional suspicion of it caused by bleeding. A rectal cancer can undergo intussusception and prolapse. Prolapse of the rectum as a separate condition is common and, whatever the variety, the exposed mucosa is all normal, at least at first.

These then are the symptoms which concern us, and if a serious disorder is suspected, a more general enquiry is needed.

#### THE EXAMINATION

The examination in these cases is often too cursory or is omitted altogether. A female patient coming for examination should be accompanied by another woman. After gaining the patient's confidence and overcoming the expected modesty, all one requires for an adequate examination is a good light, a finger stall, some lubricant (any colourless oil and not too much) and an anal speculum, or better still a sigmoidoscope.

The most satisfactory position is the lateral one with the

head, trunk and hips markedly flexed ('rolled up like a ball') and the buttocks on the edge of the bed. Most women patients prefer this position.

Parting the buttocks gently with both hands, the clinician inspects the anal verge and compares the two sides. He looks for the tell-tale bulge of the ischio-rectal abscess adjacent to the anus, with the overlying skin reddened, shiny or perhaps indurated and with *peau d'orange*, very tender but not often fluctuating; for the nipple-like external opening of a fistula anywhere around the anus; and for the pea-like perianal haematoma on the verge itself, plum coloured, tense and tender. He notes where there are skin tags and whether internal piles are prolapsed.

Then the patient strains and is told not to fear the passage of faeces or gas because precautions are at hand; otherwise the sphincter is not likely to relax. Only with relaxation can the pile easily prolapse or the fissure be seen.

#### Digital Examination

It is still true that if you don't put your finger in it you may 'put your foot in it'. A digital examination must be made before a speculum is used. The general extent and the intimate nature of a lesion are often much better felt than seen. Even with an acute fissure or peri-anal haematoma it is usually possible to insert a finger by hugging the opposite wall, but with such painful conditions it is unnecessary to do so until the spasm is released by the anaesthetic given for treatment of the primary condition. Certainly if a finger cannot pass, a speculum must not be tried. A submucous abscess permitting touch with a finger for the purpose of diagnosis would be unbearable with a speculum. An internal fistulous opening or a foreign body (e.g. fish bone) might be easily palpated though not seen.

With the index finger for an adult and the little finger for a child, one can reach further than a speculum can 'see' and will learn far more. To palpate the anterior wall, turning of the finger through 180° will permit an extra half inch to be felt by the nail and, with straining, a further inch or more of the rectum is palpable. In our satisfaction at finding a lesion in the ano-rectum, let us not forget to palpate the important neighbouring organs.

The finger should be introduced in a furtive manner, first by making its slightly flexed distal end steal over the anal margin posteriorly (unless a fissure has been seen there) and, with the patient straining, following with the whole digit (Fig. 1). The patient then helps relaxation by deep breathing.

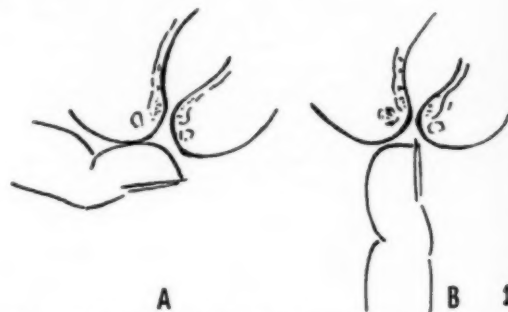


Fig. 1. Ways of inserting finger. A: Correct. B: Wrong.

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Internal piles are never palpable in the canal unless they are exceptionally large (soft and wobbly), thrombosed (a state not often met) or have by natural cure become fibrous polypi, which are usually tiny, often pedicled, and felt at least  $\frac{1}{2}$  inch from the anal margin. Otherwise they are definitely diagnosed only if they are *seen*, either prolapsed or by speculum.

Finger examination also allows estimation of the integrity of the sphincter and its tone. One sometimes sees a patulous anus, but only in senility, disease of the spinal cord or mental defect (with prolonged constipation and lack of training), when the slit-like aperture is replaced by a yawning hole with the pink mucosa of the upper anal canal visible.

#### Instruments (Fig. 2)

There is misunderstanding about what constitutes an anal speculum, a proctoscope and a sigmoidoscope, and some catalogues perpetuate it.

An *anal speculum* is often erroneously called a proctoscope. Its business part is just longer than the anal canal. With the patient breathing deeply and drawing air into the rectum, it can also allow a view of a short length of rectum. But that is all. Like the proctoscope and sigmoidoscope it must never be introduced without first ascertaining whether there is any obstructing anal lesion such as a stricture, nor inserted without its obturator; otherwise piles or even normal mucosa can easily be torn. A good light is required. Unfortunately most models carry none, so that the doctor finds his head

of a known condition of the middle rectum where a sigmoidoscope by its length would prove cumbersome.

#### Sigmoidoscope

The functional portion of the sigmoidoscope is 12 inches long. The best model is one of the Yeoman's type, with a proximal light. A distal light (Strauss) carried on a long wobbly lead is frustrating in its delicacy; it is easily fouled by faeces, blood, a swab or another instrument, and cuts down the view.

A few hours in a suitable hospital clinic, will enable quite rapid proficiency to be acquired in the use of the instrument.

It is a mistake to specially prepare the bowel by enemata or purgation; these procedures may greatly alter the natural state of the mucosa, wash away secretions, or even excite secretion. The patient need only evacuate the bowel just before examination, at the most assisted by his accustomed aperient the previous night.

The instrument, having passed through the anal canal with the obturator in place, is thereafter only advanced under view. A magnifying eye-piece is provided but this is not essential unless air is being injected to balloon the lumen. A little air is sufficient; too much not only causes discomfort but seems to have been responsible for some cases of collapse. Perforation of the rectum or colon will not occur if the lumen is always in view and seen to be wide enough to allow the instrument to pass. Diverticulitis is an obvious example of a condition in which a way must never be forced, the wall often being rigid, heavily inflamed, and thin at points.

It is commonly believed that a sigmoidoscope will travel most of the length of the sigmoid colon. But although the rectum is only 5 inches long this is its vertical height and does not allow for its curves, which become straightened out on the instrument. When the last rectal valve is passed, a sharp angle to the left denotes the recto-sigmoid junction and when this is reached only a short portion of the sigmoidoscope still remains outside the anus. Usually only the lowest 2 inches of the sigmoid is passed, and perhaps another 2 inches beyond this is seen by air ballooning.

The swabs used to keep the lumen clear are small wool sausages held on a proper swab-holder. Biopsy forceps are an important requisite in the examination of ulcer, stricture or tumour and in the removal of polyps. Unfortunately, in about 15% of all cases it is anatomically impossible to lever the instrument through the recto-sigmoid junction.

In a recent large hospital survey it was found that for want of a sigmoidoscopy, 20% of those operated on for rectal cancer had recently undergone a haemorrhoidectomy for the same symptoms. Would it be heretical to suggest that, even for those not surgically inclined, a sigmoidoscope is essential and might be as good a buy as a stethoscope?

No examination is complete without attention to the abdomen for masses and for fluid and to both groins for node enlargement.

For keeping a record of lesions a convenient diagram is used in St. Mark's Hospital, London (Fig. 3A). The interval between the outer and the inner ring represents the surgical anal canal.

#### ANO-RECTAL CONDITIONS

In the light of a complete investigation as described above we can now shortly consider some of the commoner ano-rectal conditions.

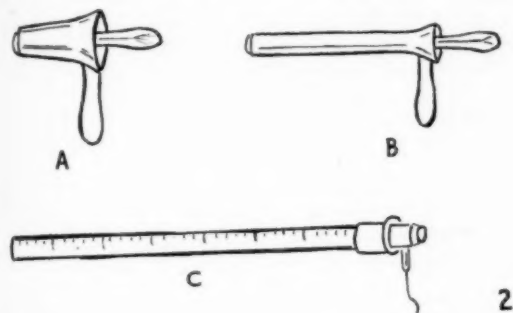


Fig. 2. Relative size of proctological instruments. A: Anal speculum. B: Proctoscope. C: Sigmoidoscope.

competing with a torch for access. A clear view is then difficult and to try to inject haemorrhoids under such circumstances, with the added obstruction of the syringe, is unsatisfactory and may be dangerous. McEvedy has devised a simple, cheap, well-shaped model carrying a proximal light generated by a dry battery in the handle. The speculum is the only means of diagnosing internal piles, assessing their size, and injecting them (if thought suitable) at the same time.

The *proctoscope* is usually called a 'short' sigmoidoscope, but its only claim to this title is its shape and calibre, for it is only half the length of a sigmoidoscope and can never be made to enter the adult sigmoid colon. A child's sigmoidoscope is a little longer and of smaller calibre, and will reach the sigmoid. Important lesions such as cancer or amoebiasis are so common in the upper rectum and lower sigmoid that sigmoidoscopy is essential for a full examination and one finds little use for a proctoscope except perhaps for treatment

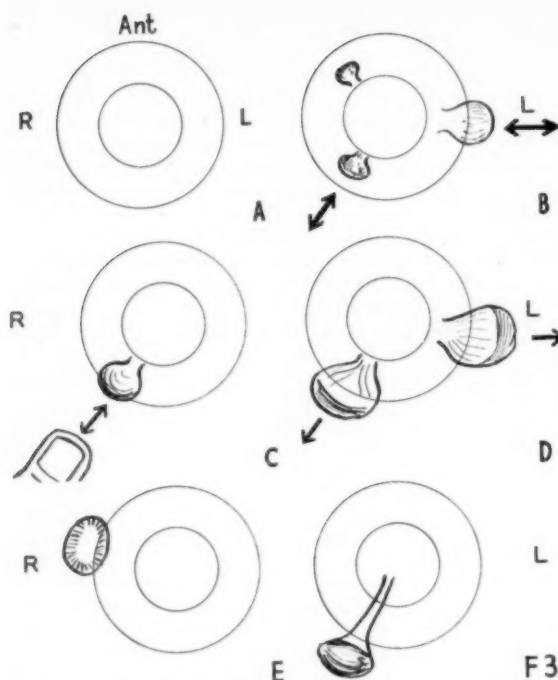


Fig. 3. Pictorial recording of ano-rectal lesions. A: Basic drawing. B: Internal haemorrhoids—R, anterior (not prolapsing), R, posterior (spontaneous reduction), and L, lateral (spontaneous reduction). C: Internal haemorrhoids—prolapsing R posterior requiring digital reduction. D: Internal-external haemorrhoids—permanent prolapse of R posterior and L lateral with metaplasia. E: Peri-anal haematoma on R lateral verge. F: rectal polyp on posterior-lateral wall of rectum and prolapsing on long stalk.

#### Internal Haemorrhoids

A malady of young adults, piles are seldom seen in portal hypertension and only rarely appear to result from essential hypertension. Constipation is not particularly associated with them, but they are certainly worsened by local strains, as in pregnancy. They are never painful unless complicated, and are only diagnosed when seen on prolapse or by speculum. Bleeding is present at some time in their progress, and is usually the first symptom. Three stages of prolapse follow, viz.:

Stage 1, in which spontaneous reduction takes place after defaecation is over (Fig. 3B).

Stage 2, in which the prolapse can be reduced with the fingers after defaecation (Fig. 3C).

Stage 3, in which the prolapse is permanent (Fig. 3D).

Stage 3 includes the interno-external pile which by constant wear and tear acquires by metaplasia a squamous covering of the exposed mucosa, merging with the everted anal-canal skin.

The extent of a prolapsed internal pile can only be determined by palpation. It is differentiated from an external pile by the fact that the external pile is limited to the anal margin and cannot be returned to the canal.

Piles become *strangulated* by their own sphincter, when

they swell rapidly owing to obstruction of the venous drainage, weep considerably, and finally undergo surface necrosis from arterial obstruction and secondary infection. If the circulatory disturbance has been intense, natural cure by fibrosis may take place on return of the pile mass to the canal, with the formation of fibrous polypi.

Haemorrhoidectomy may then be unnecessary.

The treatment of internal piles may be summarized as follows:

1. Bleeding only: Injection of the base of the pile with a sclerosing fluid (5% phenol in almond oil). The patient is ambulant and no anaesthetic is required.

2. Stage 1 of prolapse: Injection only.

3. Stages 2 and 3 of prolapse: Haemorrhoidectomy, preferably by the St. Mark's Hospital technique, which is unlikely to be followed by stricture. The best post-operative dilator is the oiled finger. If secondary piles are present, only the primary piles are excised at the first operation. If there is an associated fissure this is operated on first, when probably only an adjacent pile will be removed.

4. Strangulated piles: (a) If the case is seen within 24 hours of strangulation, the sphincter is relaxed by an injection of local anaesthetic and the pile mass is reduced and kept in place by a firm pad held by a T-bandage. The foot of the bed is then raised and the patient suitably sedated. On no account should haemorrhoidectomy be considered until the condition has completely subsided. In some cases it is then unnecessary. If the patient is diabetic or if gross infection is present (the changes seen are usually only due to the gangrene) control of the infection by chemotherapy is advisable. Penicillin is of little use.

- (b) In the case of strangulated piles not seen until after the 1st day, it is my practice to apply ice compresses frequently in order to reduce the size of the pile mass, and to apply the other subsidiary measures mentioned under (a). I try *once only* digitally to return the pile mass.

Lead-and-opium lotion has a light astringent action only. It has never been possible to cure haemorrhoids by quack suppositories.

#### Conditions of the External Haemorrhoidal Cushion

A varicose condition of the external haemorrhoidal plexus presents as a cushion encircling the anus and is of little consequence except in pregnancy.

*Peri-anal haematoma* is caused by sudden rupture of part of the venous plexus, usually by straining, and occurs in the young, otherwise fit adult, more often the male. It is a tight, pea-like, exquisitely tender nodule, usually on the lateral anal verge (Fig. 3E). A simple little operation in which the mass is bisected with a radial incision after local anaesthetization of the adjacent sphincter and skin (Fig. 4) allows expression of the fluid or clotted blood and relief to a grateful patient.

*Thrombosed external pile* presents in the same way as a peri-anal haematoma, but is seen more commonly in the enlarged haemorrhoidal cushion of the pregnant woman. The operation of bisection is disappointing, for although it releases oedema fluid, the wormlike clots in the intact veins are not easily expressed. The local anaesthetic, however, usually gives relief, and the swelling gradually subsides.

Both of the foregoing conditions are grouped with strangulated internal piles by most patients as 'an attack of piles'.

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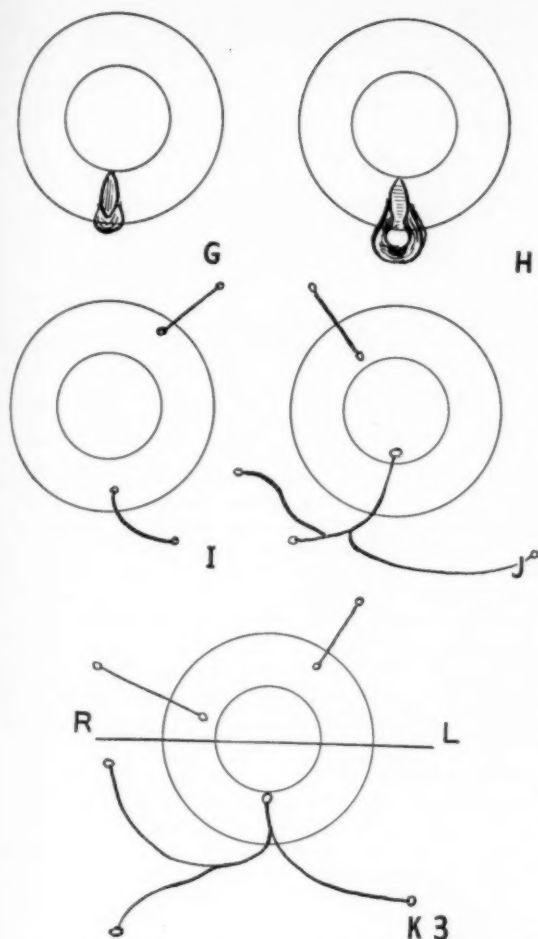


Fig. 3 (continued). G: Acute fissure—longitudinal fibres in floor, tiny sentinal pile. H: Chronic fissure—circular fibres in floor, large skin folds and sentinal pile. I: Two low-level fistulae. J: Anterior high-level fistula and posterior high-level fistula with internal opening above ano-rectal ring, subsidiary tracks and external openings. K: Goodsall's rule (see text).

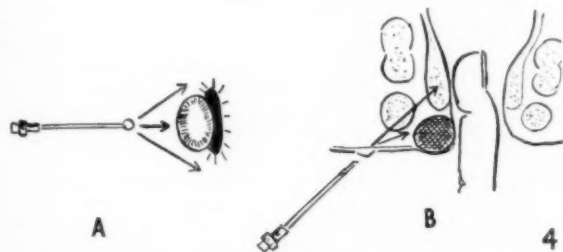


Fig. 4. Local anaesthetic injection for incision of peri-anal haematoma. A: Needle inserted through wheal 1 inch from haematoma and anaesthetic passed fan-wise under skin into sphincter. B: Coronal section to show how finger in ano-rectum protects against perforation of mucosa by needle point.

#### Fissure in ano.

Milligan once described this condition as *on ano* and this explains it best. It is first a split of the mucosa only, on a radius of the anal verge and up to  $\frac{1}{2}$  inch in length (Fig. 3G). The commonest site (in the mid-line posteriorly) is accounted for by an anatomical muscle weakness there, which virtually allows a herniation to take place between fibres during straining.

As the condition progresses, muscle fibres become involved in a cleft ulcer which has a fibrous base. On either side of the split the skin edges are pushed out with each straining into two ridges which, outwards of the fissure, adjoin in a skin tag or mound, the sentinal pile, well named as it looks down the valley (Fig. 3H). As mentioned above, pain is the basic symptom, and bleeding is also common. The condition can readily be diagnosed from the history and because access to it is easy. Here we have a sound reason for not rushing a finger into the anal canal without looking first.

The anterior fissure, also in the mid-line, is only seen in the female, in whom, of course, a posterior fissure may also occur.

It is usually taught that fissure in ano can only be successfully treated by excision, by an operation splitting the sphincter, or by a combination of both. This is true only for the chronic fissure with its base of fibrous sphincter. An acute fissure often heals without treatment, as witness the patient with many previous but well-spaced attacks. If only mucosa is torn, instant relief is given by injecting the affected half of the sphincter with a local anaesthetic or, if one is not satisfied that the standard of asepsis permits this, by applying an anaesthetic ointment (1% 'nupercaine') before each defaecation. The stool is also lubricated by liquid paraffin taken orally. If such treatment does not suffice, a digital breaking of the sphincter by the forced spreading of both index finger ends inserted under local anaesthetic can be tried. Only then, and in chronic cases, should excision with or without sphincterotomy be performed. These operations require post-operative inspections for up to 3 weeks to prevent post-operative fistula formation.

#### Peri-rectal Abscess

Presumably by infection spreading from anal crypts or glands, one of the number of spaces around the ano-rectum may become the seat of abscess, with the usual malaise, fever, pain and swelling. These abscesses subside when they rupture internally into the ano-rectum, or externally, or are

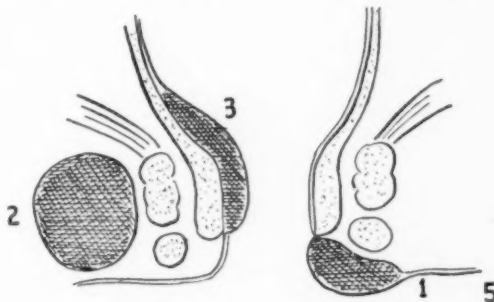


Fig. 5. Peri-rectal abscess (coronal section). 1. Peri-anal. 2. Ischio-rectal. 3. Submucous.

incised. An abscess placed anteriorly must be differentiated in the male from a peri-urethral abscess. Three sites of perirectal abscess are particularly important (Fig. 5):

1. *Peri-anal abscess* appears near or on the anal verge. It is often small but, if it bursts and has not the benefit of full drainage by early incision, it may leave a track, the forerunner of a low anal fistula. It is differentiated from an ischio-rectal abscess by its more medial and superficial position. The causal organisms are generally of the coliform group, but an occasional abscess in a hair follicle is staphylococcal.

2. *Ischio-rectal Abscess.* The skin over the space involved is thick and to await fluctuation before operating may allow of a wide extension of the abscess forward to the perineum, superiorly by the side of the rectum even through the levator ani, or behind the anal canal to the other side. It is the precursor of nearly all fistulae in ano, which may occur even after adequate observation of the cavity left after incision.

Antibiotic chemotherapy is of little assistance in the treatment, and an early operation should be done by a radial incision into and including the anal margin. If a cut is made through the more superficial portion of the sphincter, the incision imitates the opening-up of a low anal fistula. De-roofing of the overlying skin may be needed. The cavity so formed is encouraged to heal solidly by second intention either by packing or the daily introduction of sinus forceps and an oiled finger. This prevents pocketing, and the formation of new tracks. It involves a long stay in hospital.

The patient with a large ischio-rectal abscess is sometimes in a very toxic condition, and one must exercise care in the choice of anaesthetic and look out for a diabetic basis.

Occasionally there is already evidence of a fistula, although in this case, abscess formation is usually limited by fibrosis.

In an infant the abscess is often an infected haematoma consequent on the child's sitting heavily on one of its toys.

3. *Submucous abscess* is a tender, often longitudinal swelling of the anal canal, which can be diagnosed by the careful introduction of a finger.

A pelvi-rectal abscess which lies above the levator ani is a rare condition and will not be considered here.

#### *Fistula in ano*

This is the sinus track left by an abscess and there is always an internal and external opening. One of these, however, can become blocked by exudate or by healing, and further tracks and openings may then form. A fistula has a repetitive purulent discharge from its external opening and chronic abscesses may develop.

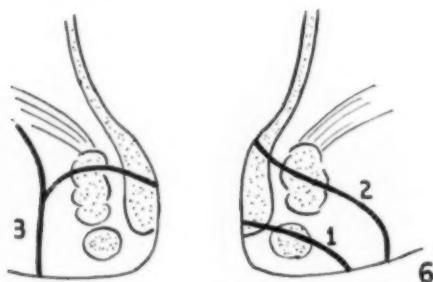


Fig. 6. Anal fistula (coronal section). 1. Low-level. 2. High-level. 3. High-level with subsidiary para-rectal tract.

Of the five varieties described, the low-level fistula (Figs. 3I and 6) is by far the commonest, and with this type it is usually possible not only to see and feel the superficial track but to find the internal opening as well and probe it. Gabriel was the first to point out the importance of tuberculosis as a possible origin of fistulae, especially the anterior variety. Any fistulae, especially the multiple and the long para-rectal types, are suspect, and a chest X-ray and histological examination of the fistula track are always required.

For the purpose of operation, which is the only means of cure, it is essential to trace out and excise all the tracks, and this can be promoted by injecting dye into them. *Goodsall's rule* (Fig. 3K) is also practical. Any external opening posterior to a transverse line imagined mid-way through the anal aperture will have an internal opening in the mid-line posteriorly, whereas an opening anterior to this line will have its internal opening directly opposite it in the anal canal. Subsidiary tracks can be found anywhere. The operation of excision for fistula has not altered basically from the time of Roger Aderne and is no less difficult today. It is often performed in stages to avoid the complication of incontinence. Thus it is usual to delay division of the sphincter in any operation on a high fistula (Figs. 3J and 6). A ligature is passed through the fistula and tied around that part of the sphincter not yet incised. It is left for about 3 weeks and then the fibrous block is incised. However, in most cases, tracks are usually well surrounded already by fibrous tissue and this precaution may not be needed.

Cancer may develop in fistula of long standing. It is not always of the squamous type, but in some cases is a rectal adenocarcinoma, even though the rectum itself is clear of tumour.

#### *Prolapse of the Rectum*

The adult variety, already alluded to, is not amenable to palliative treatment and one or two different operative repairs, often in combination, are necessary. It is commonly a herniation of the full rectal wall through the anal canal. If so, the swelling is usually rather eccentric and has concentric creases on it whereas, with a prolapse of mucosa only, the creases are radial. The variety in the child, usually under 2 years old, is consequent on straining, often occurring during an attack of diarrhoea. It rarely recurs after reduction, which is easily accomplished by the fingers and without anaesthetic. Only occasionally, when toilet training has failed, is an operation advisable.

#### *The Solitary Rectal Polyp*

At a time when we are all very much aware of the sinister propensities of a rectal polyp in an adult, especially if sessile and multiple, it should be noted that the finding of one in a child does not indicate a case of familial polyposis with its grave chance of cancer. The single rectal polyp of childhood (Fig. 3F) is always classical in its presentation at stool, its bright red appearance, and its possession of a long stalk (otherwise it would not prolapse). Although the child cannot always produce it by straining, it is palpable usually within an inch of the ano-rectal ring as a firm elusive mass, which is readily delivered. The child hardly needs a full-scale examination for other polypi. Although removal is easy, it is necessary always to transfix the pedicle with the ligature, *before* dividing it between clamps, because the

proximal clamp sometimes slips off. Should this occur before the tie is made, bleeding is brisk and from an inaccessible site.

### Cancer of the Anal Canal

When cancer occurs in the upper  $\frac{3}{4}$  inch of the surgical anal canal it is a rectal cancer. Epithelioma of the anal canal or its verge is rare, but a number of cases follow either some neglected local condition or the misuse of X-ray therapy for intractable pruritus or a marginal dermatological lesion. This epithelioma is often missed until it has spread widely locally and to inguinal nodes bilaterally. The anal canal is also one of the classical hidden sites for malignant melanoma.

These then are some of the commonest ano-rectal lesions. If the practitioner can diagnose them all confidently he is well on the way to alleviating much distress in his practice.

Let me repeat my appeal for a sound acquaintance with the sigmoidoscope, which will repay the clinician handsomely in his practice; in the White patients, by the exposure of a majority of rectal and colon cancers and, in the non-White, by the frequent diagnosis of amoebiasis.

### SUMMARY

The more frequently occurring ano-rectal conditions are considered from the point of view of the general practitioner.

Their general diagnosis is first dealt with, stress being laid on a careful consideration of symptoms (duration, bleeding, pain, change in bowel habit, irritation and discharge, swelling, prolapse).

Physical examination is then discussed, including inspection, digital examination, and the use of the anal speculum and the sigmoidoscope.

Separate accounts are then given of individual conditions, including internal haemorrhoids with and without prolapse and strangulation, peri-anal haematoma and thrombosed external pile, fissure in ano, peri-rectal abscess (peri-anal, ischio-rectal and submucous), fistula in ano, rectal prolapse, solitary rectal polyp, and cancer of the anal canal.

Diagrammatic illustrations are based on a system in use at St. Mark's Hospital, London.

Stress is laid on the importance of the sigmoidoscope and a knowledge of its use on the part of the general practitioner.

### TAALRUBRIEK

Die Taalkomitee van die Geneeskundige Skool van die Universiteit van Stellenbosch stel voor om te gebruik:

1. Antigeen, soos homogeen, heterogeen, ens., en nie antigenies nie.

2. Eng. spasm, Afr. kramp, sametrekking, maar volgens die verband is ook ander woorde gebruiklik, bv. bui in hoesbui, ens. Vir die b.n.w. ag die Komitee die woord spasmodies noodsaaklik, bv. in spasmodiese hoesbui, in teenstelling tot spasties.

3. Eng. infertile, infertility; Afr. onvrugbaar en onvrugbaarheid, teenoor steriel en steriliteit. Die Komitee vind geen grond vir die behoud van infertiel nie.

4. Eng. resuscitate. Ons het in die omgangstaal verskeie woorde hiervoor, bv. bykom, bykry, bybring, maar nog nie gebruiklike naamwoorde nie. Daarvoor sou ons bv. bykoming, bykryging, bybringing kon gebruik, al bevredig dit nie volkome nie. Maar dan moet ons nog onder meer die volgende benoem: (a) die persoon wat bygekom het—met of sonder hulp—die bygekome? bygekryde? bygebringde? bygebragte, (b) die menslike helper (dokter bv.) hierby: bykryer? bybringer?, (c) die masjien: . . . ?, en (d) die lokaal waar soiets gebeur: bykomkamer? bykrykamer?

Die probleme is te veel vir ons gebruiklike werkwoorde bykom, ens. Daarom word voorgestel:

Ww. resussiteer.

S.nw. resussitering en resussitasie.

Agens (mens en masjien): resussitator.

Lokaal/kamer: resussiteerkamer of -lokaal/saal, ens.

5. Eng. anticipation. Behou die ingeburgerde antisipasie (in geneeskundige sin).

6. Eng. analgesia, Afr. analgesie, en dan ook bv. analgesiemeddele, of, analgesiese meddele.

7. Eng. chyl, chylous, chylomicron, Afr. chyl, chyleus (bv. chyleuse sis), chylomikron. (Spreek uit soos *geil*.)

8. Eng. pre- en post-maturity (en mature), Afr. laat gebore, laatgeboorte, laatgeborenhed, vroeg gebore, vroeggeboorte, vroeggeborenhed (i.v.m. die fetus).

9. Eng. cyclic, Afr. siklies (bv. sikliese braking).

10. Eng. lining membrane, Afr. voeringvlies of voeringmembraan.

Die Komitee sou dit waardeer om van medici woorde te ontvang waarmee hulle in Afrikaans nie goed raad weet nie, liefswoorde wat in die praktyk dikwels gebruik word. Daaroor sal dan hier aanbevelings gepubliseer word.

### FORTHCOMING INTERNATIONAL MEDICAL CONFERENCES

The World Congress of Prophylactic Medicine and Social Hygiene will take place in Bad Aussee (Salzkammergut — Austria) from 20 August to 5 September 1959. The purpose of this Congress is to hold lectures and discussions regarding the prevention of infectious diseases such as poliomyelitis and tuberculosis, psychical hygiene, and professional and industrial medicine. The Congress entry fee is £2 10s. Further information may be obtained from the Secretary of the World Union, Piaristengasse 41, Vienna VIII, Austria.

The First International Medical Conference on Mental Retardation will be held in Portland, Maine, USA, on 27–31 July 1959. The Conference Committee state that the aim of the conference is not to answer all questions on problems of mental retardation, but to construct the problems which have to be attacked scientifically. The Conference is planned to include lectures, discussion groups, scientific and commercial exhibits, films, and social activities.

Further information may be obtained from the Conference Secretary, International Medical Conference on Mental Retardation, c/o Division of Maternal and Child Health, State House, Augusta, Maine, USA.

The Sixth International Congress on Diseases of the Chest, sponsored by the American College of Chest Physicians, will be held at the University of Vienna from 28 August to 1 September 1960. The programme of this Congress includes problems connected with the physiology, pathology, diagnosis and therapy of the diseases of all the organs of the chest in the adult as well as in the child. Leading scientists, clinicians and practitioners from all parts of the world will attend the Congress. It is intended to have simultaneous interpretation of the papers in English, French, German, Russian and Spanish. Further information may be obtained from the Organizing Committee, 6th International Congress on Diseases of the Chest, Frankgasse 8, Vienna 9, Austria.

FOLIC ACID DEFICIENCY STATES

Megaloblastic anaemia is the consequence of a deficiency of, or interference with, utilization of vitamin B<sub>12</sub> or folic acid. A deficiency of vitamin B<sub>12</sub> rarely arises because of deficiency intake, but occurs much more commonly because of the failure of absorption as found, for instance, in classical Addisonian pernicious anaemia. As pointed out recently, it is possible to study a state of vitamin B<sub>12</sub> deficiency either by measuring the absorption of radioactive vitamin B<sub>12</sub> or by the direct measurement of the level of vitamin B<sub>12</sub> in the serum.<sup>1</sup> Diagnostic tests to confirm megaloblastic anaemia caused by deficiency or unavailability of folic acid have not, until recently, been available, but recent work has done much to rectify this gap in our knowledge.

The classical method of studying defective absorption is to perform a balance study and measure intake *versus* output. Balance studies are however impractical as a means of measuring the absorption of folic acid in man because faecal excretion of the vitamin considerably exceeds the dietary intake, presumably because of synthesis by intestinal bacteria.<sup>2</sup> Tests measuring the urinary excretion of folic acid have, however, been used to demonstrate impaired intestinal absorption, since the amount of folic acid in the urine of normal subjects is substantially greater than in subjects in whose cases the absorption of folic acid is poor.<sup>3</sup> To allow for the possible fallacy that tissues depleted of folic acid may retain more folic acid, Girdwood<sup>4</sup> performed these tests after a preliminary saturation with folic acid. Unfortunately, there would appear to be considerable overlapping between the results in control subjects and in subjects with syndromes of intestinal malabsorption.<sup>5,6</sup>

It is not possible to detect significant amounts of folic acid in the serum of fasting normal individuals, but folic acid can be detected in serum following its administration either by mouth or by injection. One hour after the administration of one mg. of folic acid by mouth blood levels rise to a higher level in normal people than they do in patients with syndromes of malabsorption.<sup>7</sup> This provides a method by which the absorption of folic acid can be measured. Chanarin *et al.*<sup>8</sup> used this technique and found that absorption of folic acid was normal in cases with treated Addisonian pernicious anaemia, in cases with anatomical lesions of the small intestine, and in cases with megaloblastic anaemia associated with the use of anticonvulsant drugs. The absorption was defective in cases with idiopathic steatorrhoea as well as in some cases with other varieties of steatorrhoea. In three cases with tropical sprue the absorption of folic acid was normal, while it was abnormal in one case with this disease. The tropical sprue was corrected by treatment with antibiotics.

It is possible that megaloblastic anaemia may be due, not to a deficiency of folic acid, but to interference with the utilization of this vitamin. This problem has now been studied by observing the rate of clearance of an intravenous

dose of folic acid from the plasma.<sup>9,10</sup> If there is in fact a deficiency of folic acid, the plasma will be rapidly cleared of the folic acid. If there is interference with utilization, the rate of clearance of folic acid may be expected to be normal. The results of these investigations provide evidence of both types of condition and have enabled Chanarin *et al.*<sup>5</sup> to subdivide the megaloblastic anaemias into two major groups—the first associated with deficiency of folic acid and the second with impaired utilization. In the first group they place syndromes of malabsorption (as might be anticipated) and also the megaloblastic anaemia of pregnancy (arising largely through increased demand by the foetus though there is also some impaired absorption). These authors believe, too, that some examples of megaloblastic hyperplasia such as are seen in leukaemia, myelofibrosis and haemolytic anaemia, arise in this way. In the second group, that of impaired utilization of folic acid, they place some cases of megaloblastic anaemia due to anti-convulsant drugs.

Pernicious anaemia itself also has abnormalities relating to folic acid and is classified in the second group. The rate of clearance of folic acid is clearly correlated with the degree of anaemia. Chanarin *et al.*<sup>5</sup> point out that it is not only the degree of depletion of vitamin B<sub>12</sub> which determines the development of anaemia. They cite patients with subacute combined degeneration of the cord with little or no anaemia who invariably have low levels of serum B<sub>12</sub>. They suggest that the anaemia in patients with Addisonian pernicious anaemia is due to the development of a real or conditioned deficiency of folic acid. They leave, however, unexplained the fact that patients with a primary deficiency of vitamin B<sub>12</sub> do not respond to the dose of folic acid used in the clearance test like other uncomplicated states of folic-acid deficiency.

Finally, some patients with untreated iron-deficiency anaemia showed a moderately increased rate of clearance. It is possible, therefore, that these cases had a mild deficiency of folic acid and this may explain the giant metamyelocytes not uncommonly found in the marrow of patients with iron deficiency.

In summary, therefore, the increased demand for folic acid which manifests itself by a rapid clearance from the plasma of folic acid injected intravenously, indicates an abnormal degree of folic-acid 'unsaturation' of the tissues and a state of folic-acid deficiency. A normal clearance of folic acid probably excludes any significant degree of deficiency of folic acid, but more evidence is required to confirm this.<sup>9</sup>

States of folic-acid deficiency are not rare in Africa. Over a two-year period Cassel and Metz<sup>10</sup> were able to study over 40 Bantu adults and almost 50 Bantu infants with megaloblastic anaemia. Since these did not appear to be cases of Addisonian pernicious anaemia it is likely that they are associated with some degree of deficiency of folic acid.



The newer techniques are therefore likely to be of considerable assistance in the study of this group of diseases. South Africa would appear to be a suitable geographical area in which to make a study of this nature.

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## DIE PROBLEEM VAN ALKOHOLISME

Een van die netelige probleme wat gedeeltelik voortspruit uit die omstandighede waaronder ons vandag leef, sowel as uit 'n sekere ongenoegsaamheid wat by sommige mense die afmetings van 'n siekte aanneem, is die probleem van alkoholisme. Dit is 'n probleem wat wissel van persoon tot persoon, van land tot land en van tyd tot tyd. Gedurende die Industriële Revolusie in Europa met sy ingrypende veranderinge, sy onbevredigende lewensomstandighede en sy werkspanninge, byvoorbeeld, het die probleem van alkoholisme 'n hoogtepunt bereik. En in lande soos die Verenigde State van Amerika en Ierland skyn alkoholisme 'n groter probleem te wees as in Italië—ten spyte van die betreklike hoë gebruiksyfer van alkohol in Italië.

Dit wil voorkom of alkoholisme vandag weer dwarsoor die wêreld 'n styging toon as probleemtoestand. Ook in Suid-Afrika het die misbruik van drank 'n landswye probleem geword wat ons ernstige aandag verdien. Volgens berekening moet daar in hierdie land tussen 50,000 en 100,000 oormatige drankmisbruikers wees, maar hierdie syfers is nie betroubaar nie. Dit is dus verblydend om te weet dat die Departement van Maatskaplike Werk en Pensioene, in medewerking met die Maatskaplike Navorsingsburo van die Departement van Onderwys, besig is om 'n ondersoek na en opgawe van die probleem van alkoholisme in Suid-Afrika te beplan. As hierdie ondersoek kan bydra tot ons kennis van die aard en omvang van die probleem van alkoholisme, sal dit ons in staat stel om die probleem met al sy vertakkinge op 'n meer produktiewe basis aan te pak. 'n Ondersoek van hierdie aard neem egter altyd lank en dit sou dus tog 'n goeie doel dien om nou sekere feite waarmee ons min of meer bekend is, te stel.

In die eerste plaas sou ons wou aanmerk dat die onderskeiding tussen sosiale en oormatige drinkery by geleentheid, aan die eenkant, en alkoholisme wat al die omvang van 'n siekte aanneem, aan die ander kant, tog miskien sy nut het. Want alhoewel hierdie onderskeiding geensins beteken dat die probleme van sosiale drinkery nie ook ernstige implikasies en gevolge het nie, dien dit tog die doel om die feit te beklemtoon dat alkoholisme, in elk geval soos dit by sommige mense voorkom, wel 'n siekte is wat noodlottig is as dit nie gekeer word nie. Dit is nie hier die plek om die simptomatologie van alkoholisme te beskryf nie, aangesien ons slegs die algemene beginsels van die saak behandel. Dit is genoeg om te sê dat die verwoesting wat deur die alkoholisme gesaai word op die persoonlike vlak sowel as wat betref die gesin en die samelewing in die geheel, so ernstig is dat dit akute geneeskundige, ekonomiese en maatskaplike vraagstukke meebring wat ons almal raak.

In die tweede plaas sou ons dit onomwonde wou stel dat alkoholiste wel gehelp kan word. Omdat hierdie toestand dikwels so langdurig van aard is, omdat dit soveel ellende en verdriet en lyding meebring, en omdat dit so dikwels

gekenmerk word deur herhaalde terugvalle van die alkoholiste self, is dit nie 'n populêre saak nie. Almal wat egter al in 'n simpatieke en intieme terapeutiese verband met die probleem te staan gekom het, weet dat veel wel bereik kan word om alkoholiste en hulle verwante te help. Ons weet dit uit ons eie ervaring en ons weet dit op grond van gegewens soos wat vervat is in die artikel van dr. Serebro wat ons elders in hierdie uitgawe plaas. Daar skyn byvoorbeeld afdoende bewys te wees dat die probleem van alkoholisme minder akuut en baie meer beheerbaar word in die industriële wêreld as die bestuursliggame aktiewe belangstelling toon. En ons ken almal alkoholiste wat hierdie onthouding nie net volhou oor 'n tydperk van jare nie, maar wat ook produktiewe kragte ten goede geword het in sulke ondernemings soos die Alkoholiste Anoniem.

Ongelukkig is die fasiliteite vir behandeling in ons land nog karig—veral as 'n mens aan hospitaal- en kliniekeriewe dink. Daar word egter al meer aanvaar dat die alkoholiste teen die agtergrond van die samelewing waarin hy beweeg, behandel moet word. Daarom word daar nie hospitale of inrigtings waartoe alkoholiste vir 'n lang tydperk toegelaat kan word in die vooruitsig gestel nie. Die ondernemings wat wel bestaan, soos byvoorbeeld die Gables-Inrigting in Johannesburg en die Parkweg-Hospitaal in Kaapstad (wat 'n provinsiale hospitaal is) werk almal op die basis van 'n kliniek-instelling. Alkoholiste kan hoogstens oor kort tydperke toegelaat word tot hierdie inrigtings. Verder geskied behandeling op die basis van 'n buitepasiëntediens, en pasiënte ontvang persoonlike of groepsterapie na gelang van die aard van hul probleem.

By die behandeling van die alkoholiste is die gesindheid en emosionele volwassenheid van die terapeut van baie groot belang. Om hierdie rede is die tekort aan geskoolde werkers op hierdie gebied dan ook so ernstig. As meer belangstelling gewek kan word, en dit behoort moontlik te wees, onder dokters en maatskaplike werkers en die geestelike leiers van die gemeenskap, behoort dagklinikieriewe uitgebrei te word na soveel algemene hospitale as moontlik dwarsdeur die land.

'n Belangrike fasie van die behandeling van alkoholisme in 'n moderne geïndustrialiseerde staat, is pogings wat deur nywerheidslui self aangewend word. Uit die soort ontdekking wat byvoorbeeld opgeteken is in die artikel oor alkoholisme wat ons in hierdie uitgawe plaas, is dit duidelik dat alkoholisme duur kos in terme van tyd en geld en mannekrag. Programme in die nywerheid, van die kant van die bestuur sowel as van die kant van die arbeid self, word egter wel onderneem en hierdie soort benadering kan nie sterk genoeg aangemoedig word nie. Deskundige raad en leiding moet waar nodig beskikbaar gestel word aan alle firmas en ondernemings wat sulke programme aanpak.

Wat die terapeutiese benadering in 'n breër verband

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betref, kan ons nie nalaat om die werk van organisasies soos die Suid-Afrikaanse Nasionale Raad vir Alkoholisme met sy verskillende plaaslike vertakkinge, en die Alkoholiste Anoniem te noem nie. Hierdie liggame tree veral op op die gebied van die beplanning en organisasie en die lewer van vrywillige dienste vir die behandeling en rehabilitasie van Alkoholiste. Sonder die uitstekende werk wat hierdie liggame doen sou ons skaars kon klaarkom.

Tot tyd en wyl ons oor meer gegewens beskik aangaande die aard van die toestand van alkoholisme, en tot tyd en

wyl ons oor beter terapeutiese geriewe en middels beskik, kan ons nie beter doen nie as om, soos een van die streek-afdelings van die Suid-Afrikaanse Nasionale Raad vir Alkoholisme, te mik daarna om die werk te koördineer van mediese, maatskaplike, kerklike, en lekerwerkers\* en die stryd teen alkoholisme, soos teen elke ander openbare gesondheids-vraagstuk, aan te knoop deur opvoeding, navorsing en dienste.

\* Kyk ook na die aankondiging op bladsy 611 in hierdie uitgawe oor die Kongres oor Alkoholisme wat vroeg aanstaande jaar gehou sal word.

## INTRA-OCULAR COENURUS INFESTATION

E. EPSTEIN, *Ophthalmological Department, Boksburg-Benoni Hospital, and N. S. F. PROCTOR and H. J. HEINZ, Departments of Neuropathology and Parasitology, South African Institute for Medical Research, and Department of Pathology, University of the Witwatersrand, Johannesburg*

Coenurus is the term applied to the cystic larval stage of a tapeworm in which there are numerous scolices in contrast with cysticercus, and no evidence of daughter cysts as in hydatid. This particular larval form, as well as the characteristic shape of the rostellum and hooklets and certain features of the vagina in the adult worm, are considered diagnostic systematic traits of the subgenus *Multiceps*.

The proper host of the adult worm of a number of species of *Multiceps* is not known, but it is safe to say that various carnivores, especially canines, harbour it. Intermediate hosts may vary greatly. The greatest number are to be found among the rodents, but various primates have been incriminated who, it may well be, are incidental intermediate hosts, having been infested along the same lines as man, in whom sporadic cases have been reported.

*Multiceps coenurus* (*coenurus cerebri*) has a wide host distribution. It varies morphologically according to the intermediate host and the tissue in which it is found. Though it is most frequently reported as inhabiting the central nervous system, coenurus occurs in animals in the intermuscular connective tissue, the abdominal cavity, the thoracic sheath, and the pericardial sheath. Many human coenurus infestations are doubtlessly passed off as hydatid cysts.

The following case, which illustrates the value of a surgical exploration of the uveal tract, is only the third case on record of an intra-ocular coenurus infestation.

The first case was reported by Boase<sup>1</sup> and by Raper and Dockeray<sup>2</sup> in an adult Native male in Uganda. Clinically, a large whitish cyst was noted projecting from the nasal side of the fundus, apparently filling the vitreous and in contact with the posterior surface of the lens. Movements were detectable in the cyst, suggesting two scolices. The eyes were very painful and the patient requested enucleation. He had presented himself at the clinic 10 months earlier with signs and symptoms of iritis. Atropine drops were instilled into the eye and he was asked to wait for further examination, but unfortunately did not do so. Examination of the enucleated eye revealed a trilobular cyst with numerous scolices and was considered to be *Multiceps coenurus*.

The second case was reported by Wainwright,<sup>3</sup> of Durban, in an enucleated eye. A Bantu male aged 51 complained of a painful eye; the condition was diagnosed as conjunctivitis and iritis. Unfortunately no ophthalmoscopic report is available. Four months later there was a marked increase in tension, great pain, proptosis, ciliary staphyloma, and dense keratic precipitates. The eye was enucleated with a tentative diagnosis of neoplasm. Examination revealed a bilobular cyst filling the vitreous, which was identified as coenurus cerebri.

### PRESENT CASE

The present case concerned a female European child aged 3½ years. She was born in the Transvaal but for the year before consultation had been resident in Swaziland. The mother had noticed that during the previous 2-3 months the left eye had been variably congested and that at times the child complained that it was sore. The mother thought that the child had bumped the eye when the symptoms first appeared; she imagined that she saw a bruise just lateral to the eye. The patient's doctors had treated her for conjunctivitis.

Examination showed a mildly flushed eye, a small clotted streak of blood on the iris, and a few delicate posterior synechiae. The vitreous was very hazy and fundal details could not be seen, but it was obvious that a white raised mass was present on the nasal side. The tension of the eye was normal.

Good and complete mydriasis was obtained with homatropine and cocaine drops plus one drop of 1% adrenalin. It was then obvious that an extensive smooth high elevation of the nasal fundus was present, reaching from the ciliary body to apparently the region of the disc, although it was extremely difficult to define the disc on account of the vitreous haze. The maximal elevation was just below the horizontal meridian between the ora serrata and the equator. The swelling tapered off below and above, so that the retina appeared flat in the oblique meridians although it had the same oedematous whitish appearance as on the swelling itself. No movement was noticed in the mass, which was specially examined for this phenomenon. The temporal half of the retina appeared normal, but the anterior region only could be examined through the cloudy vitreous.

As far as could be ascertained in a child of this age there was no perception of light with this eye. Transillumination under general anaesthesia showed the mass to be translucent.

The findings suggested a granulomatous uveal inflammatory lesion and, amongst the possible causes, tuberculosis, Coats's disease, cysticercosis, hydatid disease and even hookworm infestation were considered. Neoplastic disease was excluded as unlikely on the physical findings. This is discussed further below.

### Investigations

Haemoglobin 14.5 g%. Leucocytes 9,600 per c. mm. (neutrophils 52%, lymphocytes 40%, monocytes 4%, eosinophils 3%, basophils 1%). Sedimentation rate, 17 mm./hour. Idr test negative.

Stool examination for parasites, negative. Hydatid complement-fixation test, positive (result received after operation).

X-ray examination of head, chest and legs showed no abnormality.

### Operation

Surgical exploration of the mass was considered at least for biopsy to pave the way if possible for rational therapy. Under general anaesthesia a large scleral flap was reflected. The two parallel incisions starting a few mm. from the limbus were 2-3 mm. above and 4-5 mm. below the borders of the medial rectus muscle. A vertical incision joining these two horizontal cuts was placed a few mm. behind the insertion of the medial rectus, which

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muscle had first been detached. The larger posterior flap extended to just behind the equator, the furthest point that could be reached without undue traction on the globe. Greater details of a similar approach for removal of a cysticercus have been published elsewhere.<sup>4</sup> The eye had been softened as much as possible by pre-operative 'diamox' retrobulbar anaesthesia, and finally a paracentesis of the anterior chamber just before the scleral incisions were carried through to the choroid. The exposed choroid was paler than normal. The region corresponding with the maximal swelling in the fundus was gently incised, and suddenly a small white cystic mass herniated through the incision. A single scolex was visible in the small bladder and the whole simulated a typical cysticercus cellulosae. With this assumption in mind a pair of iris forceps were applied with closed blades to sweep the cyst from the wound in the choroid. The gentle pressure applied made the cyst bulge, and more scolices became evident. The choroidal wound was then enlarged and the endocyst of what was then thought to be a hydatid oozed out with a little pressure. Part of the outer ectocyst wall was excised for investigation and the remaining now collapsed cavity was gently swabbed with 10% formalin. The cavity extended from about the middle of the ciliary body to midway between equator and disc.

The adjacent tissue was then examined, both externally and by means of the headlamp ophthalmoscope worn throughout the operation,<sup>5</sup> to exclude the chance of a second cyst. Six 0 mild chromic catgut was used for closure of all incisions and reattachment of the medial rectus muscle. Diathermy was available to coagulate any raw surface should a biopsy only have been taken, e.g. in the case of a tuberculoma. A long-acting antibiotic preparation was given once postoperatively and oral steroid therapy was also commenced. Convalescence was uneventful.

The vitreous cleared and the oedema of the nasal retina settled, but its appearance was abnormal, suggesting a gliosis and fibrosis with patchy pigmentation. The temporal region appeared normal. The optic disc was very distorted, especially its nasal side. Four months after the operation the disc was still red, but there was apparently no return of vision, although the pupil reacted a little to light. Cosmetically, however, the eye appeared normal. Unfortunately follow-up was limited to 6 months, when contact was lost.

#### Pathological Findings

The cyst was about 8 mm. in diameter but of rather irregular shape (Fig. 1). Numerous white nodules of about 1-2 mm. in diameter were clearly visible in the wall of the cyst; fresh preparations showed these to be definite scolices (Fig. 2). The individual scolices consisted of a rostellum with a double row of hooklets and 4 suckers typical of the taenia type of tapeworm (Fig. 3). There were no daughter cysts. The hooklets of the armed rostellum could not be measured in the original condition, so that it was necessary to tease one of the scolices apart. There were 2 rows of hooklets present. Measurements of both large and small hooks showed that they clearly fell within the small variation limit of *Multiceps multiceps*—large hooks 150-170  $\mu$  and small hooks 90-130  $\mu$  as given by Baer.<sup>6</sup> Hooks are known to be reliable morphological features because numbers, sizes and shapes are rather constant for each species.

#### DISCUSSION

Human infestation by cysticercus cellulosae, coenurus cerebralis and hydatid is known to occur in South Africa. The brain, meninges and cerebrospinal-fluid pathways are not infrequently involved, with serious results.<sup>3,7-12</sup>

This is the second case of multiceps coenurus in the eye described in South Africa. It is probable that this child was infected from the ingestion of eggs passed in the stools of an infected dog. However, attempts to trace infection to the child's pet dog have proved fruitless, so that the source of the infection remains unknown.

Coenurus cysts appear to develop in man in certain well defined situations only; these include the cerebrospinal-fluid pathway and, as indicated by this case, the uvea of the eye. Degenerated cysts are sometimes encountered in the central



Fig. 1. Macroscopic appearance of the opened fresh cyst,  $\times 12$ .



Fig. 2. Scolices evaginated from the wall of the cyst,  $\times 38$ .



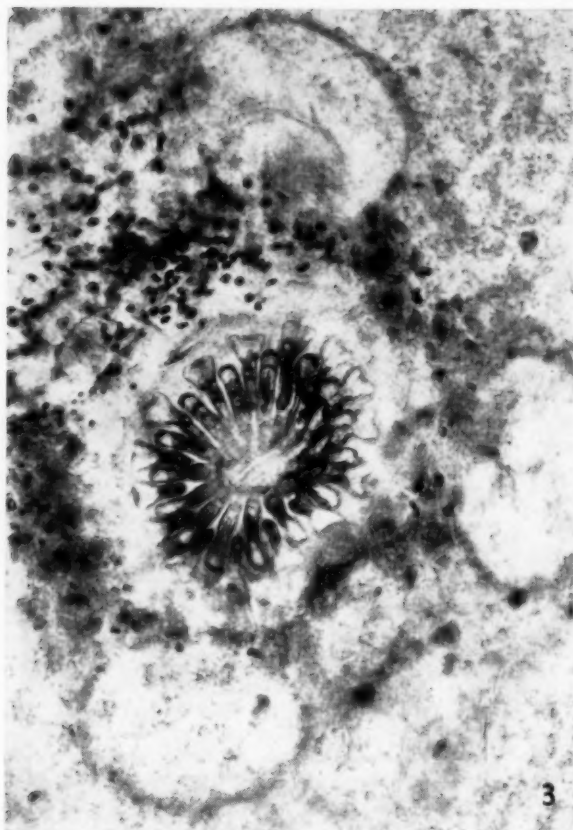


Fig. 3. The rostellum of one of the scolices, showing 3 of the 4 suckers and the double row of hooklets,  $\times 150$ .

nervous system which are obviously derived from tapeworms, but their true identity cannot be determined because of the absence of scolices. Similar cysts, containing numerous scolices, have been described in the Belgian Congo, where Fain has succeeded in identifying them as the larval stage of the tapeworm *Multiceps (Taenia) braunii*.<sup>13</sup>

Intra-ocular helminthic infestations occur rarely. Cestodes, nematodes and diptera are recorded. Hydatid cysts within the eye are very rare. Cysticerci are more frequent. When the parasite has ruptured into the vitreous, the diagnosis is fairly simple. However, when the cyst is subretinal and especially when it is within the uvea, the diagnosis becomes more difficult. The problem of malignant neoplasm then arises.

In the adult a melanoma might present the greatest difficulty. Parasitic cysts usually produce signs of inflammation, but so may the melanomas, especially when

undergoing necrosis.<sup>14</sup> Melanomas, however, usually occur as large tumours, which makes the diagnosis almost self-evident, whereas a small cyst with inflammatory changes is more likely a parasite. The features of pigmentation and transillumination help, but cystic change in the necrotic centre of a melanoma might make differentiation almost impossible.

In the young child a malignant melanoma is exceptional<sup>15</sup> and one completely translucent with inflammatory changes probably hypothetical. The more likely problem would be the exophytum type of retinoblastoma. This would present with a smooth elevated retinal surface, but clinical inflammatory changes have not been described with this type of tumour.<sup>14</sup> Wilder<sup>16</sup> described 46 enucleated eyes from young children where a clinical diagnosis of retinoblastoma had been made and in which histologically no tumours were found. The pathological diagnosis of pseudo-tumour or Coats's disease was made. Re-examination of these 46 eyes by serial sections then showed the definite presence of nematode larvae in 24 and bodies suggestive of degenerating larvae in the remaining 22. Although it was impossible to determine the exact genus of the larvae they were considered to be hookworm.

Probably the earliest features in the case described in this paper, and in the 2 previously described cases in Natives, were a localized swelling in the fundus, vitreous haze, and an iritis. It is suggested that cases with such features—selected after due consideration of laboratory investigations, increasing swelling and inflammatory reaction, etc.—should be submitted to what might be called exploratory sclerotomy. Had this case been seen sooner there is every chance that useful vision would have been saved.

#### SUMMARY

A case of intra-ocular infestation with a coenurus of *Multiceps multiceps*, and its successful removal, is described. Aspects of intra-ocular helminthic infestation and the relation to the diagnosis of pseudo-tumour are discussed. The value of exploratory sclerotomy is suggested.

We are indebted to the Superintendent of the Boksburg-Benoni Hospital and the Director of the South African Institute for Medical Research for permission to publish the case.

Mr. M. Ulrich of the Photographic Department of the South African Institute for Medical Research was responsible for the photographs.

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#### DIE SUID-AFRIKAANSE AKADEMIE VIR WETENSKAP EN KUNS

Die Suid-Afrikaanse Akademie vir Wetenskap en Kuns vier sy 50-jarige bestaan te Stellenbosch, Kaap, vanaf 24 tot 29 Julie 1959. Die Tak Simon van der Stel van die Afdeling Geneeskunde van die Akademie reël in hierdie verband 'n vergadering te Stellenbosch op Donderdagaand 23 Julie om 8 nm. in die Anatomielesingsaal in die D. F. Malan-gebou. As sprekers sal optree prof. H. W. Snyman ('Geneeskundige onderrig in Afrika') en prof.

M. W. Woerdeman (onderwerp van eie keuse). Professor Snyman is Hoof van die Departement Interne Geneeskunde van die Universiteit van Pretoria en professor Woerdeman is die bekende histoloog-anatoom van die Gemeentelike Universiteit van Amsterdam en is ook voorsitter van die Koninklike Nederlandse Akademie. Lede van die Mediese Vereniging van Suid-Afrika is baie welkom by hierdie vergadering.



## HAEMORRHAGE IN AN ENTEROGENOUS CYST OF THE DUODENUM

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The anomaly of an enterogenous cyst of the intestine is a well-recognized entity. In the duodenum, however, it is of rare occurrence. Since the first description of a case of enterogenous cyst of the duodenum by Sanger and Klopp<sup>1</sup> in 1880, only 25 cases have been described in the world medical literature. Of these, only 2 have presented the rare complication of intracystic haemorrhage.

These cysts of the duodenum usually manifest themselves during the first decade of life by symptoms resulting from duodenal obstruction. The clinical picture therefore closely resembles that of congenital hypertrophic pyloric stenosis. The present case is reported on account of the rarity of the condition and the unusual features of the case.

## CASE REPORT

M.T., an 8-year-old Bapedi girl, was admitted to hospital on 24 February 1958, complaining of recurrent cramp-like upper abdominal pain associated with bouts of vomiting for 3 days. Her mother reported that at the age of 11 months the child had been taken to hospital because of repeated vomiting. At that time an upper abdominal mass had been noted. No operation was performed. At the age of 2 years the child had been readmitted to hospital, again because of vomiting, and an operation was performed. A cyst the size of an orange had been noted to the right of the second part of the duodenum, and the surgeon had performed an antecolic gastro-enterostomy.

Since the time of operation the child had suffered from monthly attacks of pain and vomiting, but the mother had never noticed any evidence of melaena stools or the passage of blood per rectum.

On examination the patient was found to be well-nourished and normally hydrated. The abdomen presented with a right-sided paramedian scar overlying a rounded mass, the size of a large orange, which on clinical examination could not be dissociated from the liver. Increased peristaltic sounds were heard, coinciding with cramp-like abdominal pain. No melaena stools were observed. On roentgenographic investigation no calcification or fluid levels were noted.

Observation for 48 hours revealed no essential change in the

patient's good general condition. Early on the 3rd day the local signs changed somewhat; the mass increased in size, it became tender to palpation, and pyrexia developed. Laparotomy was decided on.

At operation the stoma of the previous antecolic gastro-enterostomy was found to be normal and no dilated loops of bowel were observed. The hepatic flexure of the colon was adherent to, and stretched over, the anterior surface of a swelling, the size of an orange, and overlying the second part of the duodenum. Multiple dense adhesions anchored the superior surface of the mass to the inferior surface of the liver (Fig. 1).

The mass was then mobilized from the right-hand side, and during dissection a small perforation occurred in the lateral wall, from which black blood and clot escaped. Further dissection showed that the cyst was intimately associated with the antero-lateral wall of the second part of the duodenum. This part of the duodenal wall was oedematous, and there was blood clot adherent to it, the region having an appearance and consistency very suggestive of a bleeding peptic ulcer with clot in the crater. No communication between the cyst and the lumen of the duodenum could be demonstrated. Further exploration and attempts at a curative procedure were precluded by deterioration in the patient's condition, and we were advised by the anaesthetist to abandon further surgery. A section of the wall of the cyst, which had by that time contracted down to one-quarter of its original size, was excised for histological examination. The ulcer-crater was covered and oversewn with the remaining walls of the cyst. The adjacent pyloric antrum was sutured to the anterior wall of the cyst to cover this suture-line. The conditions after the operation are shown in Fig. 2. Post-operative recovery was uneventful.

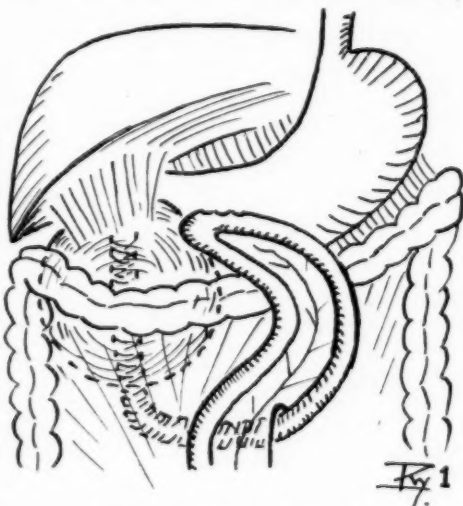


Fig. 1. Conditions before operation.

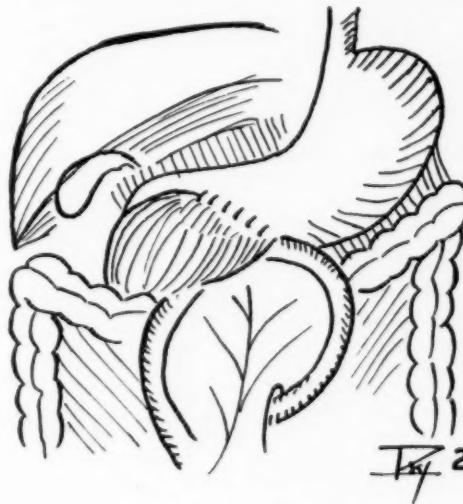


Fig. 2. Post-operative conditions.

**Histological report.** 'Section of this tissue from the cyst wall submitted shows that it is composed of bundles and strands of smooth muscle running in various directions. The stroma is loose and contains ganglionic nervous tissue elements and a few iron-laden macrophages. The whole area is infiltrated by lymphocytes. Some of the vessels contain thrombi. A small surface covered by histiocytes is observed. No epithelium is observed. The features are those of recent haemorrhage, and are consistent with those of an enterogenous cyst.'

## DISCUSSION

During the original admission this case presented classical features, and received recognized treatment. The subsequent course, however, was unusual in that some element of obstruction remained, and an acute episode occurred 6 years after operation. These acute symptoms were undoubtedly due to haemorrhage into the cyst, causing local pressure, because no communication existed between the cyst and the duodenal lumen.

An analysis of the literature brought the following interesting information to light:

Sanger and Klopp,<sup>1</sup> in 1880, reported the first case of an enterogenous cyst of the duodenum, in a newborn infant who had died during a difficult delivery. At autopsy it was found to have transposition of the viscera and 5 cysts were present, viz. one of an accessory liver, an accessory bile duct, and 3 intestinal cysts, one of which arose from the duodenum and was the size of a walnut.

Roth,<sup>2</sup> in 1881, reported the case of a newborn male infant who had died a few hours after birth and was found to have suffered from a large thin-walled enterogenous cyst of the duodenum. A similar cyst was observed in the posterior mediastinum close to the oesophagus. The cyst did not communicate with the duodenal lumen.

In 1919 Meyer<sup>3</sup> reported on a 3-weeks-old female infant, who presented with the signs and symptoms of congenital pyloric stenosis and died 4 days after this diagnosis had been made. No operation was performed. At autopsy a cyst the size of a hen's egg was found attached to the medial wall of the duodenum, from the pylorus to the ampulla of Vater. No communication between the cyst and the lumen of the duodenum could be demonstrated.

It was in 1923 that Waugh<sup>4</sup> reported a case of a 19-day-old female infant who presented the signs and symptoms of pyloric stenosis associated with a palpable mass in the right hypochondrium and was found at operation to have an enterogenous cyst lying lateral to the second part of the duodenum. It had pushed the hepatic flexure of the colon downwards and forwards. Again there was no evidence of communication between the duodenal lumen and this cyst. An attempt was made to cure the cyst by packing it with gauze but it filled up again after 6 weeks. Suture of the cyst wall to the aponeurosis of the abdominal wall was subsequently performed in an attempt to obliterate the cyst, but the infant died 6 days after operation, from a pulmonary infection.

Similarly, in 1927, Maddox<sup>5</sup> reported on a case with the same clinical picture as that recorded by Waugh. In this case the cyst was associated with the second and third part of the duodenum, and was the size of a goose's egg. Poor condition of the child did not allow any curative form of surgery to be performed, and death occurred 16 hours after operation.

The sixth report of this type of intestinal cyst came from the hand of Smith<sup>6</sup> in 1930, when he found a cyst attached to the anterior wall of the duodenum, and again he was unable to find any evidence of communication with the intestinal lumen. Smith established external drainage, which proved of no avail, as the infant died 1 week after operation.

By this time about 50 years had elapsed since the report of the first case, and no successful surgical procedure was available for the cure of this rare condition.

Gardner and Hart<sup>7</sup> were the first surgeons to come forward with positive and systematic teaching for the cure of enterogenous cysts of the duodenum. In their paper, published in 1935, they reported a duodenal cyst in the medial wall of the second part of the duodenum in a female child aged 15 years. There was no communication with the intestinal lumen. An anastomosis between the cyst and duodenal lumen was established, and this proved to be a satisfactory method of treatment as shown by their follow-up report 3 years after operation. Gardner and Hart suggested the following methods of treatment:

1. Excision.
2. Permanent internal drainage into the intestinal lumen by (a) anastomosis between the cyst and duodenum or (b) anastomosis between the cyst and jejunum, combined with jejuno-jejunostomy.

Ripstein,<sup>8</sup> in 1949, stressed the fact that as intestinal duplications are a frequent cause of massive intestinal haemorrhage in infancy, and because they usually cause acute symptoms, it is essential for the surgeon to be familiar with their mode of presentation and the treatment of choice.

Altogether 21 cases of enterogenous cyst of the duodenum were found described in the literature up to 1953; 4 more cases have since been reported.

In 1955 Pinkerton and Annamunthodo<sup>9</sup> described a case of post-eclamptic anuria which was complicated by haemorrhage into an enterogenous cyst of the duodenum.

The presentation and diagnosis of enterogenous cyst of the duodenum was adequately reviewed by Mendl and Tanner<sup>10</sup> in 1954, and they mention the fact that marked distension of the cyst occasionally produces atrophy of its muscular coats, so that a fibrous-walled cyst may remain. We believe that the distension occasioned by intra-cystic haemorrhage had caused the disappearance of a mucosal lining in our own case.

Our own case will be the 26th in the series of publications. Of these 26 cases only 2 have shown frank intracystic haemorrhage.

According to Shallow *et al.*<sup>11</sup> the mortality in the first 14 cases was 50%.

Our impression from the literature is that gastro-enterostomy is a life-saving procedure in the infant with obstruction. It seems essential, however, to make a subsequent direct attack on the cyst itself in order to prevent later complications. In our case the gastro-enterostomy that was performed when she was 2 years old was insufficient for a lasting cure. Eradication of the cyst or the establishment of permanent internal drainage is an essential part of the treatment.

## SUMMARY

1. A case of enterogenous cyst of the duodenum complicated by intracystic haemorrhage is described.
2. The relevant literature is reviewed.
3. It is emphasized that enterogenous cyst of the duodenum should be considered in the differential diagnosis of congenital hypertrophic pyloric stenosis.
4. The treatment of choice is briefly discussed.

## OPSOMMING

1. 'n Geval van 'n derm-sis van die duodenum met bloeding in die sis is beskrywe.

2. 'n Kort oorsig van die betrokke literatuur word aangehaal.
3. Die feit dat derm-sis van die duodenum oorweging moet geniet by diagnose van aangebore hipertrofiese stenose van die piloris word benadruk.
4. Die beste behandeling word kortliks bespreek.

We wish to express our gratitude to Dr. I. Frack, Medical Superintendent of the Baragwanath Hospital, for his permission to publish this case, and to Dr. I. J. P. Burger for his histological report.

## THE CONTROL OF ALCOHOLISM AS A MEASURE OF EFFICIENCY IN MANAGEMENT

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'Every effort has been made since the end of the Second World War to obtain sufficient suitable recruits for the running staff (of the Tramways Department), not only to complete the establishment necessary for the operations of scheduled services, but to offset the continual wastage of personnel . . . It is imperative that the maximum services be obtained from every available man. One factor militating against optimum labour potential from a large body of workers is the loss of efficiency brought about by alcoholism. This problem is one faced not only by the Tramways Department, but by large employers of labour throughout the world and various methods have been and are being tried in an effort to combat the growth of what has come to be recognized as a disease<sup>1</sup> threatening the social structure of the community. We, the City Council of Johannesburg, agree to assist in the Alcoholic Rehabilitation Scheme conducted by Dr. Boris Serebro.<sup>2</sup>

This extract is an example of progressive industrial thinking by a local authority, which motivated the decision taken by the City Council of Johannesburg at its 824th Ordinary Meeting in December 1954.<sup>3</sup>

The management directive indicated above was put into operation by the Unit of the Alcoholic Rehabilitation Scheme which I conducted, and the facilities of this Unit were extended to all employees from all departments of the City Council of Johannesburg. At the same time, all heads of departments of the City Council who are concerned with management were made aware of these facilities for the treatment and the rehabilitation of their alcohol-addicted employees. Likewise trade unions and the Staff Association, representing the labour aspect, were informed of the facilities available for their members who are employed by the various municipal departments.\*

### *Human Relations in Management*

The conscious acceptance of positive attitudes in the field of human relations, particularly with regard to good labour-management relations, is a necessary prerequisite in the approach to the problem of alcoholism.<sup>5</sup> The management that accepts this premise must obviously realize the managerial implications of the principle, particularly in respect of its personnel planning and policy. Furthermore, the acceptance of this principle indicated clearly that in the municipal administration management was in accord with the City Council and its efforts to prevent the continual man-power wastage and to facilitate the recruitment of personnel.<sup>6</sup> At the same time an example was set to the community as a whole.

From the point of view of human relations in management the municipal departments may be characterized in

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3 groups according as (1) both management and labour, (2) either management or labour, or (3) neither management nor labour, are interested in the human relations aspect of their personnel.

### *Effect of Good Human Relations on the Alcohol-addiction Rate in Departmental Personnel*

(a) Where management and labour were both seriously concerned with human relations as affecting departmental personnel, we found that there was good cooperation between these two interests in dealing with alcoholism. Both made it their business to ensure that alcohol-addicted workers were 'spotted', interviewed and encouraged to undergo treatment and rehabilitation by my Unit. Treatment in the majority of cases was obligatory and was made a condition of continuing employment.<sup>7</sup> Dismissal was used as a final resort and was applied only when this condition was not fulfilled. In fact, it was not the management but the alcoholic worker that 'fired' himself. This encouragement and the directing of the alcohol-addict worker to the Unit revealed the extent of alcohol addiction in the department. Labour cooperation facilitated both treatment and rehabilitation. In one instance labour cooperated by supplying the Unit with social-relations officers drawn from the ranks of the workers themselves.<sup>8</sup> These men called at the homes of alcohol-addicted workers and treatment was much helped by the effective contact established by the social-relations officers, who 'spoke the same language' as the worker and appreciated the peculiarities and difficulties of the job and its specialized environment.

(b) A management in a department, without the co-operation of labour, can do much for the alcohol-addicted worker, but is handicapped in 'spotting' the alcoholic, and as a result is unable to discover the extent of alcohol addiction in the department. Similarly, labour in the form of an active trade union, without the cooperation of management, could not make the treatment and rehabilitation of addicted rank-and-file workers obligatory. This compulsion, basically economic, is essential for the ultimate well-being of the individual alcoholic.<sup>9</sup>

(c) In a minority of the City Council's departments a situation was found where neither management nor labour was interested in the human-relation aspect of their employees. For example, in a big department with large numbers of employees no alcohol-addicted workers were directed to the Unit. We knew that the alcohol-addiction rate of City Council European employees as a whole was about 12%,<sup>10</sup>

\* The financial assistance which the City Council gave to the Unit was terminated in April 1957.<sup>4</sup>



and therefore that the fact that no alcoholics came to the Unit from this large department did not indicate that there were no alcohol-addicted workers in the department, but that neither labour nor management took an interest in the employees' human relations. The management of this department had totally ignored the directive issued by the City Council.

*The Alcohol-addiction Rate of a Department as a Measure of Management and General Efficiency*

(a) A relatively high alcohol-addiction rate in the workers of a department may be the result of an active human-relation policy on the part of management and/or labour and the directing of suitable cases to the Unit for therapy, and this could usually be equated with good labour-management relations. In such a department communication was adequate on all levels, job morale was high, and absenteeism, including sickness absenteeism, was not excessive, while trading accounts were most profitable. This high general efficiency bore a direct relationship to a high alcohol-addiction rate, which indicated effective control of the alcoholics in the department.

(b) Management or labour acting alone results in a lower alcohol-addiction rate in a department. In such a department we noticed that communication was of the oscillating variety and was dependent on the changing moods and tensions in the management itself. Human relations were often strained. The sickness-absenteeism rate was high and the trading accounts left much to be desired. The dismissal rate of known alcoholics was high, while the labour turn-over gave cause for alarm. The index of efficiency of the department bore a direct relationship to the lower alcohol-addiction rate, which was indicative of inadequate control of alcoholics in the department.

(c) Where neither management nor labour was interested in the human-relations aspect of their workers, few if any were directed to the Unit. This indicated that communication had broken down at all levels in the department and that as a consequence all actions and decisions taken by the management were viewed with suspicion. A minimal or nil alcohol-addiction rate showed that there was no control at all of the alcohol-addicted workers, and reflected adversely on the general efficiency of the department.

The reference to a Unit of alcohol-addicted workers from an industrial organization, resulting from adequate attention to the human relations of the workers, acts both as a diagnostic and prognostic tool in the hands of a scientifically orientated methods and organization division, or personnel or staff department, and is an indication of the management efficiency level.

#### SUMMARY

The City Council of Johannesburg assisted in maintaining a Unit for the purpose of treating and rehabilitating workers addicted to alcohol in its departments. Management and labour in the departments were made aware of the facilities provided for alcohol-addicted workers by an Alcoholic Rehabilitation Scheme in Johannesburg.

The departments differ according to the interest management and labour show in the human relations aspect of the workers. Where human relations are adequate as the result of cooperation between labour and management, the addicted workers are referred to the Unit and the recorded alcohol-addiction rate in the workers is high; without such cooperation it is lower, and in a few departments where neither management nor labour is interested there is a minimal or nil alcohol-addiction return.

A high alcohol-addiction rate was found to be indicative of good labour management relations, and was also reflected in high general efficiency. Similarly a low addiction rate was found to be proportionally indicative of lack of interest in human relations and of low general departmental efficiency.

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### THE LEIPOLDT-NORTIER MEMORIAL LIBRARY\*

R. LANE FORSYTH, M.Ch., F.R.C.S. (IRE.)

In the entrance hall of Medical House, Cape Town, there is a bronze plaque to the memory of Dr. C. Louis Leipoldt, a former Editor of our *Journal* and Organizing Secretary of our Association. On this tablet are inscribed the words 'poet and physician' and I suppose in years to come these two words will be all that passers-by will see and note. However, since before you this afternoon on your agenda there is a letter from Clanwilliam drawing your attention to the fact that a Leipoldt-Nortier Memorial Library has been erected in that town, and requesting donations towards its completion, I thought that it would perhaps not be out of place to remind you of something of the man whose memory is being thus honoured.

Leipoldt came from missionary stock; he was born in 1880 in Worcester in the home of his grandfather, the Rev. Louis F. Esselen. His father, the Rev. Christiaan Leipoldt, was for many years pastor of the Dutch Reformed Church at Clanwilliam and

it was here that C. Louis Leipoldt spent his childhood and adolescence. He did not go to school but received his education at home in history, classics, Dutch, English, German and French. His reading was wide in the little village library which was subsequently destroyed in the Anglo-Boer War. In Clanwilliam, too, he came into contact with Dr. Harry Bolus, the noted botanist, who not only was to play a great part in stimulating Leipoldt's interest in the flora of the country, but whose generosity made it possible for Leipoldt to pursue the study of medicine.

He accordingly entered Guy's Hospital in 1902 for this purpose and won gold medals for both medicine and surgery. But medicine did not occupy his whole attention for he took much interest in writing essays and articles for various journals and worked under Escoffier, the distinguished French chef at the Ritz.

After qualifying, he toured the hospitals of Europe in a journalistic capacity; he took a trip at sea and then returned to gain the F.R.C.S. In 1910 he became an inspector of schools in London and in 1912 he toured the Middle and Far East.

\* Abridged version of an address to the South Eastern Division of the Cape Western Branch (M.A.S.A.) on 7 March 1959.



In 1914 he returned to South Africa where he became the medical inspector of schools in the Transvaal. This office he held until 1925 when he became Editor of the *Medical Journal* and Secretary of the Medical Association of South Africa, a post which he occupied for 19 years.

This short record gives us little knowledge of the man, the memory of the depths of whose generosity and affection rests secure in the hearts of those many boys for whose maintenance and education he provided at his home at 'Arbury' in Newlands and those numerous intimate and loving friends who enjoyed his comments, criticisms and companionship. The ordinary mortal has to turn to Leipoldt's poetic work to get some real appreciation of the way his sensitive soul responded to the life and beauty manifested about him. And so we can feel the lilting song in his heart when he surveys the South African scene—as when we hear our children take up the melody in:

'Al die veld is vrolik;  
Al die voëltjies sing;  
Al die kriesies kreek daarbuite;  
Elke sprinkaan spring.'

and in:

'Dit is die maand Oktober, die mooiste, mooiste maand.'  
and yet again in:

'Ek sing van die wind wat tekeer gaan;  
Ek sing van die reën wat daar val;  
Ek sing van ons vaal ou Karooland,  
Van blomme wat bloei by die wal.'

Can you not feel the tenderness and sympathy of this man's soul when he writes *To any mother*?:

'Oh be not bitter thinking "What I bore  
In pain and patterned with much love and care  
Is dead, and being dead can never share  
In man's experience and that greater store  
of joy and sorrow."'

Yes, and the same man could also write of 'Die spinnekophart van 'n vrou'.

And those of us who are well aware of his *bête noire* in the political scene recognize full well to whom he is referring when he wrote of 'The old mountain goat bleating banalities'. And yet he was not parsimonious in praise of others and so on Sir Winston Churchill's birthday he wrote:

'Our thoughts today are centred upon one  
Whose worth is more than one man's worth should be.'

Criticizing, he knew that he was subject to criticism. That this sometimes burnt deeply can be sensed when he says:

'Wat gee ek om mense  
Wat sê ek's mal,  
As die varings my aanhoor  
By die wal?'

About himself, he says:

'I long with all that human will can spend  
In keen desire to achieve and to obtain  
The high ideal and the wished-for end,  
All strength of soul, all subtlety of brain,  
As much as life can lift or the heart's sinews strain.'

His prayer must surely have been answered for Leipoldt must be regarded and appreciated as one of the first of the Afrikaans poets of distinction. This is not all, for his English works have a similar great appeal. The English-speaking could not have hoped for a better interpreter of their feelings at the time of the last War:

'We will not rest until the right  
Has triumphed over tyranny,  
Nor suffer doubt to dim the sight  
Of the declining day-star's light  
That shines for us as augury.'

or of their patriotism as in his Ode to Squadron 21, South African Air Force:

'Could we have joined, even in imagination  
In what you did through four full perilous years  
Our hearts would surge with pride and exultation  
Even though our eyes be curtained by our tears.'

Yes, Leipoldt had the ability to think and to think deeply and feel deeply for others. He puts himself in the place of the non-European when he writes bitterly for them:

'Ye vision a new-made world, part white and part unwhite  
O, each is a pie-bald complex when seen in the sun's clear  
light.  
For ye, with your boasted whiteness that mimics the sand-  
stone's hue,  
Have trafficked in blood too often to breed, like a blood  
mare, true.  
The Mongol's fold on the eyelid, the marks on the opened  
hand,  
The blurring stain on the finger-nail—they speak, and we  
understand.  
So where will ye fix the line that limits the curse to come?  
Or how will ye hold His Hands, or witch His Voice to be  
dumb?  
Then vaunt, if you wish, your harlot faith that fails at the  
touchstone's test.  
And judge your own elected cause—ye surely judge the best.'

I have tried to show shortly how Leipoldt belongs, in his genius, to each and every one of us South Africans. He converts our visions, our thoughts and emotions into glorious song and makes us feel better for his creations.

C. Louis Leipoldt died in 1947. And as I finish this short address I get the picture of him resting by the side of his old friend, Dr. Nortier, high up in the Pakhuis Pass where the evening sun turns those rugged sandstone rocks into burnished gold. The high Cedarberg towers above it all. Below lies the little town of Clanwilliam with its Library—a Library restored as a Leipoldt-Nortier Memorial by their friends and admirers.

This object is £3,000 short of the necessary figure required for its completion. The Medical Association of South Africa has undertaken to bring this fact to the notice of its members who are requested not to allow this Memorial to carry the financial burden.

## THE PROFESSIONAL PROVIDENT SOCIETY OF SOUTH AFRICA

The 1958 Balance Sheet and Accounts and the Report of the Board reflect another year of record development and progress.

*Income and Expenditure.* There was a marked rise in the income which for the first time exceeded £100,000 to reach the figure of £112,364. Sick pay benefits claimed amounted to £11,635 or 10.35% of the income. This represents an increase of 1.05% on the 1957 figure. Some 131 members received sick pay benefits during the year and, by the end of 1958, over £42,093 had been paid out in such benefits. It is significant that sick pay claims over the last 3 years have fluctuated within approximately 1%. The administration expenses at £6,489 amounted to only 5.77% of the income, which is exceptionally low for an organization of this nature.

*Interest and dividend allocations.* The average rate of interest rose to 5.816% which was the rate of interest earned on the

Society's investments during the year. After providing for sick pay claims, administration expenses and interest allocations, the amount available for distribution to members through appropriate credits to their apportionment accounts totalled £79,718. This amount provided for dividend credits at the rate of 2s. 6-2d. per share per month.

*Investments.* The assets at £373,229 increased by £106,094 during the year and at the present rate of growth should be over half a million by the end of 1959. The high interest pattern in the gilt edged market reached its peak in the latter half of 1958 and the Board took full advantage of the favourable interest rates by purchasing new long-term issues far in excess of statutory requirements.

Although the aggregate investment in first mortgages rose substantially during the year, the Board is anxious to increase

the proportion of funds invested in first mortgages and special facilities are being offered to members for first mortgage loans on their own residences.

**Membership.** New members reached the record figure of 370, this being 104 better than the record set in 1957 and bringing the Society's membership to 1,436 at 31 December 1958. Of these members 772 were medical practitioners, 356 dental practitioners, 100 pharmacists, and the rest advocates, attorneys, veterinary surgeons and land surveyors.

**Constitution.** Since its inception the Society has from time to time increased the benefits. These included a 25% increase in the sick-pay benefits without raising the subscription rate, an increase in the retiring age from 60 to 63 and also increased shareholdings. The strength and stability of the Society is now such that the Board is able to recommend that the benefits of membership be further extended to provide members with sick-pay cover whilst on holiday or professional business outside the area of operations of the Society. It is also recommending that the retirement age be extended to the end of the year in which members turn 65, but retaining the option to retire at the end of any year after attaining the age of 60. Proposed amendments to the Constitution to embrace these recommendations, the removal of certain restrictions relative to claims as a result of accidents, and to bring the Constitution into line with the requirements of the Pension Funds Act, are being submitted to a Special General Meeting to be held in conjunction with the Annual General Meeting.

**Additional benefits.** The New Group Life Assurance and Hospi-

talization schemes introduced towards the end of the year met with a most encouraging and satisfactory response. At the time of writing 1,019 members had subscribed for the Group Life Assurance scheme with an aggregate sum assured of £4,249,600 and 1,044 members with 3,063 dependants had joined the hospitalization scheme. Up to date one claim of £5,000 has been paid out under the assurance scheme, whilst benefits paid out under the hospitalization scheme already amount to many hundreds of pounds. These optional benefits are most advantageous additions to the already splendid benefits afforded by membership. Those who have not taken up these benefits should give serious consideration to doing so and, if necessary, refer to the Society for any clarification or explanations required. Judging by the popularity of the hospitalization scheme, a full medical insurance scheme would fill an urgent need and should meet with instant success. The board is at present investigating this matter and should be in a position to offer members a most attractive scheme within the course of the next few months.

**The future.** With its splendid record of achievement, the Society may well look to the future with every confidence. It affords its members and their dependants a measure of protection not previously enjoyed by professional persons. Of paramount importance is the fact that this organization is run by the professions for their own benefit, with the interests of members its first consideration. Its growing strength ensures that it will be able to add yet further to the comprehensive protection already offered and that it will continue to contribute greatly to the security and stability of the professions in this time of stress and uncertainty.

## OFFICIAL ANNOUNCEMENT : AMPTELIKE AANKONDIGING MEDICAL AID SCHEMES OPERATED BY INSURANCE COMPANIES

Considerable confusion has arisen regarding the attitude which members of the Medical Association should adopt towards the medical aid schemes operated by insurance companies. At its recent meeting the Federal Council discussed the question after the Central Committee for Contract Practice had reported on enquiries which had been made into the operations of certain medical insurance schemes.

The policy of the Association has been to encourage the formation of medical aid societies and this policy has been consistently followed by the recognition from time to time of additional societies if they complied with the requirements of the Association. These requirements are mainly concerned with the income of the members who should constitute the middle and lower income groups and the payment of the doctors' accounts direct and in full if rendered according to the Tariff of Fees for Approved Medical Aid Societies.

Lately medical aid schemes organized by insurance companies have come into being. These schemes are open to all income groups. Members of the Association have been at a loss to know what tariff should apply to members of the insurance schemes. Some members have even considered that, because the schemes are not officially 'approved', they should not have anything to do with them and should not even treat their members.

So far the insurance schemes have paid to the members themselves the benefits due to them. The benefit represents a proportion of the doctor's account and the member has to pay the difference out of his own pocket. In one case the insurance company sends the member cheques made out in the names of the parties to whom payment is due, so that the doctor, for one, is assured of receiving at least the major part of his fees.

The question arose whether the Association should give some

form of recognition to the medical insurance schemes. It was not considered possible to do so since the schemes provided for persons of all incomes without any control and there could be no question of the preferential tariff being applied unless a society could conform to the rules of the Association. It was, however, acknowledged that the insurance schemes probably catered, *inter alia*, for persons who could not join approved societies, for example, self-employed persons, and the assistance granted to the members in meeting their medical expenses, being based on the fees for private patients, could only be to the advantage of the profession.

Federal Council, realizing that medical insurance schemes had probably come to stay, passed the following resolution:

'That this Federal Council welcomes all forms of insurance against illness, and that, therefore, the Council appoints a special Committee on Insurance for the purpose of establishing permanent contact with all insurance companies in respect of all aspects of their activities. The name shall be the Federal Council Insurance Committee.'

Members of the Association are therefore advised to ensure that patients who present themselves as members of medical aid societies are members of societies officially approved by the Association, before applying the preferential tariff. Members of other societies should be treated as ordinary private patients who may receive whatever concession the practitioner chooses to make in each individual case.

Medical House  
Cape Town  
25 June 1959

L. M. Marchand  
Associate Secretary

## PASSING EVENTS : IN DIE VERBYGAAN

**Northern Transvaal Branch (M.A.S.A.).** A special meeting of this Branch will be held on Tuesday 4 August at 8.15 p.m. in the Upper Lecture Theatre, Clinical Building, General Hospital, Pretoria, to discuss *Artificial Insemination Donor*. All doctors are urged to attend the meeting as this problem is becoming quite frequent in daily practice.

**Cape Western Branch (M.A.S.A.).** The monthly meeting of this Branch will take the form of a Symposium on *Artificial Insemination Donor* and will be held in the Physiology Lecture Theatre, Medical School, Observatory, Cape, on Friday 31 July at 8.15 p.m. Drs. E. M. Sandler and J. N. de Klerk together with members of the Cape Bar Council will be the chief speakers and the meeting will be open for discussion and questions.

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Dr. Ronald Singer of the Department of Anatomy, University of Cape Town, has been invited to attend an international symposium on Quantitative Archaeology in Austria. While he is in Austria Dr. Singer will carry out research at the University of Vienna and will visit research laboratories in Israel, Germany, Belgium and Holland. Dr. Singer will then proceed to the USA where he has been appointed Visiting Professor in Anatomy at the University of Illinois, Chicago, for one year.

**Leipoldt-Nortier-Gedenkbiblioteek.** Die Sekretaris van die Leipoldt-Nortier-Biblioteekkomitee doen 'n oproep tot lede van die Vereniging om 'n bydrae te maak tot die boufonds van die Leipoldt-Nortier-Gedenkbiblioteek te Clanwilliam, Kaap. Hoewel die gebou reeds voltooi is en reeds op 11 Oktober 1958 ingewy is, skuld die Komitee nog meer as £3,000 daarop en ondervind hulle baie moeilikheid om die nodige fondse in te samel om hierdie bedrag af te betaal. Die Gedenkbiblioteek is opgerig om twee alombekende lede van die Mediese Vereniging te vereer, wat albei besonder hoog geprester het op mediese gebied sowel as op ander terreine. Die plan is om 'n gedenkplaat by die ingang van die biblioteek aan te bring met die name van alle donateurs wat £100 of meer geskenk het, daarop. Lede van die Mediese Vereniging word versoek om hierdie boufonds te ondersteun.

## CORRESPONDENCE : BRIEWERUBRIEK

### STAPHYLOCOCCAL ENTEROTOXIN FOOD POISONING

*To the Editor:* The article by Dr. Cooper on an acute outbreak of staphylococcal enterotoxin food poisoning<sup>1</sup> is indeed interesting in view of the number of persons affected at one time and the amount of material on which investigations could be, and were, carried out.

In this connection I should like to raise what I think is a very pertinent question: Was the coagulase positive staphylococcus responsible for the outbreak actually present in, and capable of, proliferation in the corned beef and tongue after cooking? It must be remembered that these meats are cooked for a prolonged time in boiling water.

It might be of value to carry out a small experiment based on this question, to determine whether staphylococci can actually survive the amount of heat to which they are subjected under such conditions.

G. H. Robertson

P.O. Box 8475  
Johannesburg  
1 July 1959

1. Cooper, E. D. (1959): S. Afr. Med. J., 33, 542 (27 June).

### DISSEMINATED SCLEROSIS

*To the Editor:* An eminent neurologist and research worker, head of the neurological department of a famous Swiss University, who, with his team of workers, is conducting intensive investigations into disseminated sclerosis, is very anxious to receive information on the incidence and distribution of this disease among the European and non-European populations of South Africa. It is of special interest to him to know whether a case of multiple sclerosis has ever been diagnosed in an African in the Union. According to information he has received, multiple sclerosis does not occur, or occurs only rarely, in South Africa and then in persons not born in this country.

It would be greatly appreciated if as many colleagues as possible would respond to this appeal to supply Professor Georgi with this information. Information may be addressed to the undersigned.

Walter Kluge

Alexandra Institution  
Maitland, Cape  
26 June 1959

### ETHYLENE DISULPHONATE

*To the Editor:* In an article in the *Journal* entitled 'A New Approach to the Treatment of Drug Addiction' by Dr. A. T. Harris,<sup>1</sup> reference is made to the use of ethylene disulphonate.

'n Lesing wat dr. R. Lane Forsyth onlangs oor dié onderwerp gehou het, word elders in hierdie uitgawe gepubliseer. (p. 608)

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**National Conference on the Promotion of Sobriety.** Plans are proceeding for the holding of a national conference in Johannesburg on 22-26 February 1960. The conference is being called following an approach to welfare organizations, government and provincial departments, temperance and alcoholism societies, professional associations, churches, and other bodies whose activities bring them into contact with the problems arising from alcohol and its abuse. Replies received from many of these bodies indicate that there is growing concern over the harmful effects of strong drink on the life of the nation. Yet, whilst much has been done by various organizations working in their own field and using their own chosen methods, up to now no united effort has been made on a broad front to combat alcoholism. The purpose of the conference will be to face the problem of insobriety in South Africa, studying its root causes, its effects on the individual and society; and the various contributions now being made towards a solution; and to plan a national campaign in order to bring home to the citizens of South Africa the deleterious effects of alcohol and its abuse on personal character, home and family life, and the welfare of the community and the nation.

The Council on Pharmacy and Chemistry of the American Medical Association<sup>2</sup> reported many years ago that ethylene disulphonate (allergosil) is essentially distilled water. The evidence of the existence of a compound of this nature is open to serious doubt. The compound, according to expert chemists, could only exist on paper.

Some idea of the dilution claimed is gained from the computation that 1 mg. of so-called ethylene disulphonate would require about 250 million gallons of water. According to another calculation<sup>3</sup> the entire quantity of water flowing over the Niagara Falls for seven days will have to be collected in order to obtain enough water to dilute 1 mg. of ethylene disulphonate to the stated concentration.

The subject is reviewed by the Council on Pharmacy and Chemistry who condemn exploitation of physicians and patients.

N. Sapeika

Department of Pharmacology  
Medical School  
Mowbray  
14 July 1959

1. Harris, A. T. (1959): S. Afr. Med. J., 33, 573.

2. Council on Pharmacy and Chemistry (1946): J. Amer. Med. Assoc., 131, 1495.

3. Annotation (1949): *Ibid.*, 141, 1197.

### RECENT ADVANCES AND NEW CONCEPTS IN THYROID DISEASES

*To the Editor:* This excellent article by Dr. R. Hoffenberg,<sup>1</sup> in the General Practice Series, contains several statements which may prove misleading to the general practitioner whom these articles are intended to guide. Referring to radio-iodine tests in children, he states that these may be valuable, but that many observers feel they should not be employed in small children because of the risk of carcinogenesis. Dr. Hoffenberg does not state who these observers are. The statement that a minute tracer dose which would be used in a child might give rise to carcinogenesis is very alarming and quite unjustified. Blomfield *et al.*,<sup>2</sup> analysing 500 thyrotoxic patients treated with iodine-131 in Sheffield, after discussing the relation between the radiation and cancer, state: 'Although many thousands of thyrotoxic patients have been treated with iodine-131 during the past 15 years, no cases of carcinoma have yet been reported as the result of this therapy'. The amount of radio-iodine used as a tracer in a child with scintillation counters, would be about 1/1,000th of the average dose used in radio-iodine therapy for thyrotoxicosis. Blomfield and his colleagues estimated the plasma dose as the



result of treatment in 149 of his younger patients to be 25 rad. The tracer dose of radio-iodine would therefore be equivalent to 0.025 of a rad. The amount of radio-iodine given as an experiment with rats is greater than the amount used in the tracer dose in a child. Doniach gave 32 microcuries and although he caused a number of adenomas, he only had one carcinoma, but the rats had been fed with methyl-thio-uracil to make them more susceptible to the effects of the radio-iodine. It has been suggested that the rat thyroid is more susceptible to cancer degeneration than the human thyroid, and that some of the tumour production is the direct result of thyroxine deficiency rather than ionizing radiation.<sup>3</sup> The possibility of carcinogenesis as the result of radio-iodine treatment, even in the adult, has been greatly exaggerated, and there is certainly no need to raise this bogey in relation to the infinitesimal doses given in the tracer tests. I am not aware that this possibility has ever been mentioned in the voluminous literature on the subject. It is possible that Dr. Hoffenberg does not believe there is a threshold dose for cancer; if so he should not even advocate the use of iodine-132 in preference to iodine-131 in these cases.

Where, incidentally, is iodine 132 with a half-life of 2½ hours to be obtained in South Africa?

In the discussion of the tests for thyroid function, he regards the protein-bound iodine test as 'the most valuable single parameter of thyroid function'. We have done many hundreds of tests since 1948, and in a number of these both the BMR and, in latter years, the PBI have been available for comparison. Our scattergrams demonstrated at the South African Medical Congress in Durban in 1957, do not show the PBI to be more accurate than the radio-active iodine tests, if done accurately and completely.<sup>4</sup> Dr. Hoffenberg points out that the major drawbacks to radio-iodine tests are the necessity for trained staff and specialized equipment, and invalidation of the results of previous drugs and therapy. These objections surely also apply to the protein-bound iodine tests. The need for trained staff cannot be regarded as an objection at all, for these tests are only undertaken at the large university hospitals.

It is difficult to follow, also, his statement that the radio-iodine test is of least value where it is most needed, e.g. after previous thyroidectomy, in mild cases of hyperthyroidism, and in some cases of nodular goitre. We have not had any difficulty in doing the tests after a thyroidectomy, and if one takes full advantage of the fact that the radio-iodine tracer permits one to do a number of tests, such as the uptake at different intervals, the excretion tests, and the conversion ratio, there is seldom any difficulty in determining whether the patient is hyperthyroid or not; and if there is any difficulty the Greer test (extent of suppression of iodine-131 uptake after administration of thyroid hormone) can be carried out after a second tracer. This separates the thyrotoxic from the euthyroid.

One should not, however, regard these tests as rival tests, and at times it may be necessary in cases of difficulty to do both tests. Dr. Hoffenberg rightly mentions the effect of even small doses of stable iodine in the form of cough mixtures or opaque substances used for X-ray investigations of the kidneys and the gall-bladder, particularly the latter. Even 'white iodine' used by some women on their nails will upset the tests, and the difficulty is that the patient does not realize that she has been taking iodine and it may require a great deal of questioning to elicit this information. This difficulty, however, also applies to the PBI test. If the clinical condition of the patient does not tally with the iodine-131 tests, e.g. if a patient appears thyrotoxic and yet the radio-iodine uptake is low, then the PBI test will indicate whether the patient has had some form of iodine or not, for it will obviously be high if iodine has been ingested one way or another.

Investigation with the pantopaque or similar substances containing iodine may cause iodine to be retained within the body for long periods. This may cause a high PBI for years and, in fact, may make the PBI test useless. These substances will also lower the radio-iodine uptake. This would again indicate a search for 'hidden' iodine.

Investigation of a patient I saw who was obviously very thyrotoxic but gave a lower radio-active iodine test than one would have expected, also gave a very high PBI. The investigation showed drops of the lipiodol retained in a sinus under a thickened pleura. The patient had undergone a lobectomy some time previously and had had a sinus investigated with lipiodol. The sinus healed and retained some lipiodol.

Both tests have to be done in suspect cases of thyrotoxicosis factitia.<sup>5</sup>

Under the heading 'Therapy in Thyroid Disease', Dr. Hoffenberg states that 'sub-total thyroidectomy still offers most chance of permanent cure. It is probably the treatment of choice for most types of hyperthyroidism'. This statement needs a great deal of modifying. One cannot lump together all cases of hyperthyroidism. Experience gained in the treatment all over the world of many thousands of cases indicates that, for the diffuse toxic goitre, a sub-total thyroidectomy does not give any better results than radio-active iodine therapy and there are many advantages in treatment with radio-iodine as compared with surgery. The simplicity of radio-active iodine treatment following the necessary tests is itself a great advantage over surgery. This radio-iodine treatment consists merely of taking a colourless and odourless drink, if necessary repeated after an interval of 3-4 months. In fact, Dr. Hoffenberg rather contradicts himself by stating that 'the treatment (radio-iodine) is exceedingly simple and a cure can almost be guaranteed'. Can one guarantee a cure with surgery? Blomfield also states, 'An ultimate permanent cure can be assured for all patients'.

Dr. Hoffenberg's statement, 'although probably not more than 60% of patients respond to the first dose', is not accurate. What he probably means is that 60% become euthyroid, but many of the remaining 40% improve even after the first dose. In my analysis of 325 cases presented at the Durban Congress, 203 out of the 325 cases, that is, 62.5% of the cases, became euthyroid after the first dose, but 122, i.e. all the remainder, showed some improvement and, after a second dose, a further 70 or 21.5% became euthyroid and the remainder improved. These figures are also borne out in the analyses presented in the literature. At the symposium we compared the results of some 4,000 cases treated with radio-iodine taken from the literature with 4,000 cases treated surgically. The results of the radio-iodine treatment were better than the surgical treatment.

Exophthalmos is not aggravated with radio-iodine treatment to the same extent as when treated by surgery of the thyroid. In 105 of our cases with exophthalmos, 101 cases improved as the result of radio-iodine treatment. There was no improvement in 3 cases, and only one became worse. Where the exophthalmos is marked, administration of thyroid in some form or other is a wise precaution and we have added X-ray therapy to the pituitary and eyes, protecting the lens in severe cases of exophthalmos.

Radio-iodine therapy has not only come to stay, but is the treatment of choice with very few exceptions. Even in the toxic substernal thyroid, radio-active iodine has been reported to give good results. There are far more contra-indications to surgery than to radio-iodine. The only real contra-indications are where the thyroid is extremely large, where there is some question of malignancy, or where a rapid result is essential because the patient is obliged to go to some place where skilled treatment with any method may not be available and the result of radio-iodine treatment cannot be followed up.

Danger of carcinogenesis and leukaemia has been greatly exaggerated. Although 45 years is frequently quoted as the lower limit for radio-iodine therapy, many series have appeared in the literature which include much younger patients, and it is not unusual in the various series published to see patients aged about 20 and younger in whom there was no contra-indication stated to surgery.

I have taken this matter up because the fears of radio-active iodine treatment are only slowly being dissipated. There are still too many patients having thyroidectomies where radio-iodine therapy is available. There is little justification now for overstressing the carcinogenic, leukaemia, or genetic dangers of radio-iodine diagnosis and therapy for thyrotoxicosis.

M. Weinbren

X-ray Department  
Chamber of Mines Hospital  
Johannesburg  
29 June 1959

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- Blomfield, et al. (1959): Brit. Med. J., 1, 5114.
- Linden, S. (1952): *Treatment of Toxic Goitre with Radio-active Iodine*, p. 88. Springfield, Ill.: Charles C. Thomas.
- Weinbren, M. (1957): *Symposium on Thyroid Diseases*, South African Medical Congress, Durban, 1957.
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